

The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.



**THE MODERATING EFFECT OF ECONOMIC CONDITIONS ON THE
RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT
AND FIRM PERFORMANCE IN NIGERIA**

SIMON SUNDAY



UUM
Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA**

July 2018

**THE MODERATING EFFECT OF ECONOMIC CONDITIONS ON THE
RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT AND
FIRM PERFORMANCE IN NIGERIA**



**Thesis Submitted to
Tunku Puteri Intan Safinaz School of Accountancy,
Universiti Utara Malaysia,
In Fulfilment of the Requirements for the Degree of Doctor of Philosophy**



**TUNKU PUTERI INTAN SAFINAZ
SCHOOL OF ACCOUNTANCY
COLLEGE OF BUSINESS
Universiti Utara Malaysia**

**PERAKUAN KERJA TESIS / DISERTASI
(Certification of thesis / dissertation)**

Kami, yang bertandatangan, memperakukan bahawa
(We, the undersigned, certify that)

SIMON SUNDAY

calon untuk ijazah **DOCTOR OF PHILOSOPHY**
(candidate for the degree of)

telah mengemukakan tesis / disertasi yang bertajuk:
(has presented his/her thesis / dissertation of the following title):

**THE MODERATING EFFECT OF ECONOMIC CONDITIONS ON THE RELATIONSHIP BETWEEN WORKING
CAPITAL MANAGEMENT AND FIRM PERFORMANCE IN NIGERIA**

seperti yang tercatat di muka surat tajuk dan kulit tesis / disertasi.
(as it appears on the title page and front cover of the thesis / dissertation).

Bahawa tesis/disertasi tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan, sebagaimana yang ditunjukkan oleh calon dalam ujian lisan yang diadakan pada:

27 Februari 2018.

(That the said thesis/dissertation is acceptable in form and content and displays a satisfactory knowledge of the field of study as demonstrated by the candidate through an oral examination held on:

27 February 2018.

Pengerusi Viva : **Assoc. Prof. Dr. Shamharir Abidin**
(Chairman for Viva)

Tandatangan
(Signature)

Pemeriksa Luar : **Assoc. Prof. Dr. Zuraeda Ibrahim (UITM)**
(External Examiner)

Tandatangan
(Signature)

Pemeriksa Dalam : **Prof. Dr. Azhar Abdul Rahman**
(Internal Examiner)

Tandatangan
(Signature)

Tarikh: **27 February 2018**
(Date)

Nama Pelajar
(Name of Student) : Simon Sunday

Tajuk Tesis / Disertasi
(Title of the Thesis / Dissertation) : THE MODERATING EFFECT OF ECONOMIC CONDITIONS ON THE
RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT AND
FIRM PERFORMANCE IN NIGERIA

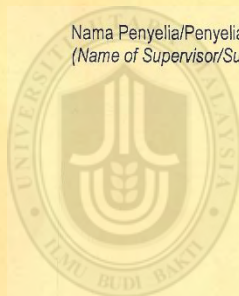
Program Pengajian
(Programme of Study) : Doctor of Philosophy

Nama Penyelia/Penyelia-penyelia
(Name of Supervisor/Supervisors) : Dr. Norfaiezah Sawandi


Tandatangan

Nama Penyelia/Penyelia-penyelia
(Name of Supervisor/Supervisors) : Prof. Dr. Mohamad Ali Abdul Hamid

Tandatangan



UUM
Universiti Utara Malaysia

PERMISSION TO USE

In presenting this thesis in fulfilment of the requirements for a Postgraduate degree from the Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this thesis in any manner, in whole or in part, for scholarly purposes may be granted by my supervisors or in their absence, by the Dean of Tunku Puteri Intan Safinaz School of Accountancy where I did my thesis. It is understood that any copying or publication or use of this thesis or parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University Utara Malaysia (UUM) in any scholarly use which may be made of any material in my thesis.

Request for permission to copy or to make other use of materials in this thesis in whole or in part should be addressed to:

Dean of Tunku Puteri Intan Safinaz School of Accountancy

UUM College of Business

Universiti Utara Malaysia

06010 UUM Sintok

ABSTRACT

This study adopted the pecking order and contingency theories to determine the moderating effect of inflation and interest rates on the relationship between working capital management (WCM) and firm performance. A panel data of 675 firm-year observations obtained from non-financial firms listed on the Nigerian stock exchange from 2007 to 2015 was used. The study further conducted in-depth interviews with six managers from these firms. Analysis of the secondary data was performed using the fixed effect model and the STATA statistical software while thematic analysis was employed to analyse data from the in-depth interviews. The quantitative analysis demonstrated that WCM variables (accounts receivable management, accounts payable management, inventory management, cash conversion cycle, and cash conversion efficiency) have inconsistent relationships with firm performance, measured by return on assets, return on equity, and Tobin's Q. Also, inflation and interest rates were found to moderate the relationships between WCM variables and firm performance. Furthermore, the results revealed that the relationships between WCM variables and firm performance have an optimal level of investment that maximises returns. Moreover, the study documented that WCM variables were more significantly affected during the financial crisis period than during the period afterwards. Also, the results of the qualitative data corroborated the findings of the quantitative data. The study concluded by highlighting the practical, methodological and theoretical implications, delineating the negative effects of inflation and interest rates on WCM and establishing that, unlike prior studies, these factors have significant effects on overall firm performance over the medium and long-term periods. The study recommends that firms should be proactive in their treatment of WCM. Also, WCM should be managed and interpreted in relationship to a firm's strategy and its macroeconomic environment.

Keywords: working capital management, inflation rates, interest rates, firm performance, Nigeria

ABSTRAK

Kajian ini mengadaptasi teori *pecking order* dan teori kontigensi untuk menentukan kesan penyederhana kadar inflasi dan kadar faedah terhadap pengurusan modal kerja (WCM) dan prestasi syarikat. Kajian ini menggunakan panel data yang melibatkan pemerhatian terhadap 675 buah firma bukan kewangan yang tersenarai di Bursa Saham Nigeria dari tahun 2007 hingga 2015. Kajian ini turut menjalankan temu bual mendalam dengan enam orang pengurus di syarikat ini. Analisis telah dibuat menggunakan model kesan tetap dan perisian statistik STATA, manakala analisis tematik telah digunakan untuk menganalisis data temu bual. Analisis kuantitatif menunjukkan bahawa pemboleh ubah WCM (pengurusan akaun belum terima, pengurusan akaun belum bayar, pengurusan inventori, kitaran penukaran tunai dan keberkesanan kitaran tunai) mempunyai hubungan yang tidak konsisten dengan prestasi syarikat yang diukur oleh pulangan atas aset, pulangan atas ekuiti, dan *Tobin's Q*. Kadar inflasi dan kadar faedah juga menyederhana hubungan antara pemboleh ubah WCM dan prestasi syarikat. Selain itu, keputusan menunjukkan bahawa hubungan antara pemboleh ubah WCM dan prestasi firma mempunyai tahap pelaburan optimum yang memaksimumkan pulangan. Selain itu, kajian ini menunjukkan bahawa pemboleh ubah WCM lebih banyak terjejas semasa tempoh krisis kewangan berbanding tempoh selepas itu. Juga, hasil data kualitatif menyokong penemuan data kuantitatif. Kajian ini menyimpulkan dengan menonjolkan implikasi praktis, metodologi dan teori, menggambarkan kesan negatif inflasi dan kadar faedah terhadap WCM dan mengesahkan bahawa, tidak seperti kajian terdahulu, faktor-faktor ini mempunyai kesan yang signifikan terhadap keseluruhan prestasi firma dalam jangka sederhana dan jangka panjang. Kajian ini mengesyorkan bahawa firma harus proaktif dalam mengendalikan WCM. Juga, WCM perlu diuruskan dan ditafsirkan dari aspek strategi firma dan persekitaran makroekonominya.

Kata kunci: pengurusan modal kerja, kadar inflasi, kadar faedah, prestasi firma, Nigeria

ACKNOWLEDGEMENT

First and foremost, my greatest gratitude goes to God Almighty, the Mighty Warrior who provided me with the knowledge, understanding, strength and grace to complete this work. He kept me hale and hearty throughout my stay at Universiti Utara Malaysia and protected my love ones during this period. My heartiest gratitude goes to my eminent, affectionate and devoted supervisors Dr. Norfaiezah Sawandi and Prof. Muhammed Ali Abdul-Hamid. I appreciate all your contributions of time, guidance, ideas, scholarly inputs, support and consistent encouragement throughout my study period. These gifts were priceless. It was a great honour, privilege and blessing to have had you as my supervisors. I am so thankful to you.

I am especially grateful to my internal and external examiners for taking the time to examine me. Thank you for taking the time to read this voluminous thesis. I am very grateful. Special thanks to the management of Universiti Utara Malaysia for the quality training. I would like to acknowledge especially the Dean of TISSA-UUM, Prof., Dr. Ayoib Ache Ahmad who taught me research methodology. Thank you for your academic and moral support. To all the staff of TISSA-UUM, I say thank you too. I gratefully acknowledge the funding sources that made my Ph.D. work possible. First, the management of Kogi State University, Anyigba, Nigeria, who granted me three years study leave with pay. Second is the TETFUND that provided the bulk of the financial support. Very special thanks go to the six participants in my study for their kind cooperation and willingness to share information about their company and experience during the interview.

A special thanks to my parents Simon Inocha and Josephine Inocha for your unflinching love and investing so much in my education. I am especially grateful to you both. To my two sisters, Eleojo Simon and Blessing Simon, I thank you for your constant support, encouragement and prayers during this period. I also wish to thank Sister Ojochide (Idrisu) Simon, Joy Simon, Fatima (baby) Ali, Happiness Hamza and Amidat Shaibu.

My sincere thanks go to my lovely wife Joy Egwuye B. Simon without whom this effort would have been worth nothing. Her love, support and tolerance throughout this period demonstrated that I have found a virtuous woman as a soul mate who thought about me so much and made numerous sacrifices. I am so grateful to my son Henry Ojotule Simon who also sacrificed much and spent much time with his mother while I slipped out to the library and reading room so that I could focus on my work. I am deeply sorry Henry for the time we spent apart; I love you and your mother.

Finally, my stay in Malaysia was made enjoyable and memorable in large part due to many good friends who became a part of my life, like Dr. Muhammed Umar, Dr. Rodu Raji and others too numerous to mention. Thank you all.

TABLE OF CONTENTS

| | |
|---|-------------|
| TITLE PAGE | i |
| CERTIFICATION OF THESIS WORK | ii |
| PERMISSION TO USE | iv |
| ABSTRACT | v |
| ABSTRAK | vi |
| ACKNOWLEDGMENT | vii |
| TABLE OF CONTENTS | viii |
| LIST OF TABLES | xiii |
| LIST OF FIGURES | xiv |
| LIST OF APPENDICES | xv |
| LIST OF ABBREVIATIONS | xvi |
| CHAPTER ONE INTRODUCTION | |
| 1.1 Introduction | 1 |
| 1.2 Background of the Study | 2 |
| 1.3 Problem Statement | 12 |
| 1.4 Research Questions | 16 |
| 1.5 Research Objectives | 17 |
| 1.6 Scope of the Study | 18 |
| 1.7 Significance of the Study | 19 |
| 1.7.1 Practical Significance | 19 |
| 1.7.2 Theoretical Significance | 21 |
| 1.8 Chapter Outline | 22 |
| CHAPTER TWO LITERATURE REVIEW | |
| 2.1 Introduction | 24 |
| 2.2 Firm Performance | 25 |
| 2.2.1 Diverse Nature of Firm Performance | 28 |
| 2.3 Underpinning and Supporting Theories | 30 |
| 2.3.1 Pecking Order Theory | 30 |
| 2.3.2 Contingency Theory | 31 |
| 2.4 Overview of WCM | 34 |
| 2.4.1 Objectives of WCM | 37 |
| 2.4.2 Significance of WCM | 37 |
| 2.4.3 Composition of WCM | 40 |
| 2.4.4 Profitability versus Liquidity Concept | 42 |
| 2.5 The Relationship between WCM and Firm Performance | 47 |
| 2.5.1 Cash Conversion Cycle and Firm Performance | 48 |
| 2.5.2 Accounts Receivable Management and Firm Performance | 54 |
| 2.5.3 Accounts Payable Management and Firm Performance | 62 |
| 2.5.4 Inventory Management and Firm Performance | 73 |
| 2.5.5 Cash Conversion Efficiency and Firm Performance | 81 |
| 2.6 Previous Studies on WCM in Nigeria | 82 |
| 2.7 Macroeconomic Conditions and Peculiarities of Nigeria | 92 |
| 2.7.1 Inflation Rates and Economic Development | 92 |

| | | |
|-------|---|-----|
| 2.7.2 | Interest Rates and Economic Development | 98 |
| 2.8 | Control Variables | 103 |
| 2.8.1 | Firm Size | 103 |
| 2.8.2 | Financial Debt Ratio | 105 |
| 2.8.3 | Sales Growth | 106 |
| 2.9 | Some Explanations of Previous Research on WCM | 107 |
| 2.10 | Research Gap | 131 |
| 2.11 | Summary of the Chapter | 135 |

CHAPTER THREE RESEARCH METHODOLOGY

| | | |
|---------|---|-----|
| 3.1 | Introduction | 136 |
| 3.2 | Theoretical Framework | 136 |
| 3.3 | Hypotheses Development | 139 |
| 3.3.1 | WCM and Firm Performance | 139 |
| 3.3.1.1 | Accounts Receivable Management | 139 |
| 3.3.1.2 | Accounts Payable Management | 140 |
| 3.3.1.3 | Inventory Management | 142 |
| 3.3.1.4 | Cash Conversion Cycle | 143 |
| 3.3.1.5 | Cash Conversion Efficiency | 145 |
| 3.3.2 | Economic Conditions | 146 |
| 3.3.3 | Working Capital Level | 150 |
| 3.3.4 | WCM during and after the Financial Crisis | 151 |
| 3.4 | Research Design | 153 |
| 3.5 | Population of the study | 158 |
| 3.6 | Quantitative Method | 160 |
| 3.6.1 | Data Collection | 161 |
| 3.6.1.1 | Data Collection Procedure | 161 |
| 3.6.2 | Sample | 162 |
| 3.6.2.1 | Sample Period | 163 |
| 3.6.2.2 | Sample Selection | 163 |
| 3.6.2.3 | Final Sample | 165 |
| 3.6.3 | Operationalization of Variables and Measurement | 167 |
| 3.6.3.1 | Dependent Variables | 167 |
| 3.6.3.2 | Independent Variables | 169 |
| 3.6.3.3 | Moderation Variables (Economic Conditions) | 172 |
| 3.6.3.4 | Control Variables | 173 |
| 3.6.4 | Unit of Analysis | 175 |
| 3.6.5 | Technique of Data Analysis | 176 |
| 3.6.5.1 | Descriptive Statistics | 177 |
| 3.6.5.2 | Justification for Panel Data Option | 179 |
| 3.6.6 | Panel Data Analysis Diagnostic Test | 185 |
| 3.6.6.1 | Heteroscedasticity | 185 |
| 3.6.6.2 | Autocorrelation | 186 |
| 3.6.6.3 | Multicollinearity | 187 |
| 3.6.7 | Research Model | 188 |
| 3.6.7.1 | Models for Objective One | 188 |
| 3.6.7.2 | Models for Objective Two | 189 |

| | | |
|-----|--|-----|
| | 3.6.7.3 Models for Objective Three | 192 |
| | 3.6.7.4 Models for Objective Four | 195 |
| 3.7 | Qualitative Method Design | 196 |
| | 3.7.1 Justifications for the Method | 197 |
| | 3.7.2 Sampling Design | 198 |
| | 3.7.2.1 Company Selection and Participants | 199 |
| | 3.7.3 Data Collection | 200 |
| | 3.7.4 Interview Method of Analysis | 202 |
| 3.8 | Summary of the Chapter | 203 |

CHAPTER FOUR QUANTITATIVE RESULTS AND DISCUSSIONS

| | | |
|-----|---|-----|
| 4.1 | Introduction | 204 |
| 4.2 | Industry Classification of the Sample Size | 204 |
| 4.3 | Descriptive Statistics | 206 |
| 4.4 | Correlation Analysis for the Relationship between WCM and FirmPerformance | 212 |
| 4.5 | Multivariate Analysis Diagnostic Tests | 216 |
| | 4.5.1 Multicollinearity Detection | 216 |
| | 4.5.2 Test for Normality | 218 |
| | 4.5.2.1 Skewness and Kurtosis | 218 |
| | 4.5.3 Test of Heteroskedasticity | 221 |
| | 4.5.4 Wooldridge Test for Serial Correlation | 223 |
| | 4.5.5 Model Specification | 226 |
| | 4.5.6 Robust Standard Error Estimate | 228 |
| | 4.5.7 Model Selection Criteria | 228 |
| | 4.5.8 Fixed Effects Regression Models | 229 |
| 4.6 | Empirical Results: Relationship between WCM and firm performance | 230 |
| | 4.6.1 Regression Results for the Relationship between WCM and ROA | 230 |
| | 4.6.1.1 Results of Hypothesis 1a | 232 |
| | 4.6.1.2 Results of Hypothesis 1b | 233 |
| | 4.6.1.3 Results of Hypothesis 1c | 234 |
| | 4.6.1.4 Results of Hypothesis 1d | 235 |
| | 4.6.1.5 Results of Hypothesis 1e | 236 |
| | 4.6.1.6 Control Variables for the Regression Results for the Relationship between WCM and ROA | 236 |
| | 4.6.2 Regression Results for the Relationship between WCM and ROE | 237 |
| | 4.6.2.1 Results of Hypothesis 2a | 238 |
| | 4.6.2.2 Results of Hypothesis 2b | 239 |
| | 4.6.2.3 Results of Hypothesis 2c | 240 |
| | 4.6.2.4 Results of Hypothesis 2d | 241 |
| | 4.6.2.5 Results of Hypothesis 2e | 242 |
| | 4.6.2.6 Control Variables for the Regression Results for the Relationship between WCM and ROE | 243 |
| | 4.6.3 Regression Results for the Relationship between WCM and TQ | 243 |
| | 4.6.3.1 Results of Hypothesis 3a | 244 |
| | 4.6.3.2 Results of Hypothesis 3b | 245 |

| | | |
|---------|--|-----|
| 4.6.3.3 | Results of Hypothesis 3c | 246 |
| 4.6.3.4 | Results of Hypothesis 3d | 247 |
| 4.6.3.5 | Results of Hypothesis 3e | 247 |
| 4.6.3.6 | Control Variables for the Regression Results for the Relationship between WCM and TQ | 248 |
| 4.7 | Moderating Effect of Economic Conditions | 249 |
| 4.7.1 | Moderating Effect of Inflation Rates on WCM and Firm Performance | 249 |
| 4.7.1.1 | Moderating Effect of Inflation Rates on WCM and ROA | 249 |
| 4.7.1.2 | Moderating Effect of Inflation Rates on WCM and ROE | 253 |
| 4.7.1.3 | Moderating Effect of Inflation Rates on WCM and TQ | 257 |
| 4.7.2 | Moderating Effect of Interest Rates on WCM and Firm Performance | 262 |
| 4.7.2.1 | Moderating Effect of Interest Rates on WCM and ROA | 262 |
| 4.7.2.2 | Moderating Effect of Interest Rates on WCM and ROE | 267 |
| 4.7.2.3 | Moderating Effect of Interest Rates on WCM and TQ | 271 |
| 4.8 | The Quadratic Relationship between WCM and Firm Performance | 276 |
| 4.8.1 | Results of Hypotheses 10a to 10c | 276 |
| 4.8.1.1 | Control Variables for the Quadratic Relationship between WCM and Firm Performance | 279 |
| 4.8.1.2 | Effect of Deviation from Optimal WCM Investment Level | 280 |
| 4.9 | The Difference between WCM during and after Financial Crisis | 285 |
| 4.9.1 | Results of Hypothesis 11a | 285 |
| 4.9.2 | Results of Hypothesis 11b | 289 |
| 4.9.3 | Results of Hypothesis 11c | 291 |
| 4.10 | Summary of the Chapter | 294 |

CHAPTER FIVE QUALITATIVE FINDINGS AND DISCUSSION

| | | |
|-------|--|-----|
| 5.1 | Introduction | 302 |
| 5.2 | Demographic Data of Participants | 302 |
| 5.3 | Analysis of the Interviews | 304 |
| 5.3.1 | Theme 1: Perceptions of WCM Practices | 304 |
| 5.3.2 | Theme 2: Perceptions of Economic Conditions | 309 |
| 5.3.3 | Theme 3: Perceptions of the Financial Crisis and WCM | 314 |
| 5.4 | Summary of the Chapter | 320 |

CHAPTER SIX DISCUSSION OF RESULTS AND CONCLUSION

| | | |
|---------|--|-----|
| 6.1 | Introduction | 321 |
| 6.2 | Overview of the Study | 321 |
| 6.3 | Summary of Research Findings | 326 |
| 6.3.1 | Findings Based on Objective One | 327 |
| 6.3.2 | Findings Based on Objective Two | 338 |
| 6.3.2.1 | Moderating Effect of Inflation Rates on WCM and Firm Performance | 339 |
| 6.3.2.2 | Moderating Effect of Interest Rates on WCM and Firm Performance | 349 |

| | | |
|-------------------|--|------------|
| 6.3.3 | Findings Based on Objective Three | 357 |
| 6.3.4 | Findings Based on Objective Four | 360 |
| 6.4 | Contributions of the Study | 362 |
| 6.4.1 | Contribution to Theory | 363 |
| 6.4.2 | Contribution to Methodology | 366 |
| 6.4.3 | Managerial and Policy Implications | 367 |
| 6.5 | Limitations and Recommendations for Future Study | 371 |
| 6.6 | Conclusion | 374 |
| REFERENCES | | 376 |



LIST OF TABLES

| | | |
|------------|---|-----|
| Table 2.1 | Global Inflationary Trends (in %) | 97 |
| Table 2.2 | Interest Rates (in %) | 100 |
| Table 3.1 | Population of Companies by Industries | 159 |
| Table 3.2 | Sample Selection Distribution | 165 |
| Table 3.3 | Summary of Variables' Measurement | 174 |
| Table 4.1 | Industry Classification of Sample | 205 |
| Table 4.2 | Descriptive Statistics of Continuous Variables (n=675) | 207 |
| Table 4.3 | Correlation Coefficient Analysis | 214 |
| Table 4.4 | Results of VIF | 217 |
| Table 4.5 | Normality (Skewness and Kurtosis) | 219 |
| Table 4.6 | Modified Wald Test for Groupwise Heteroskedasticity | 223 |
| Table 4.7 | The Probabilities [F (p-value)] | 225 |
| Table 4.8 | Model Specification | 227 |
| Table 4.9 | Hausman Test for Fixed Effects Model | 229 |
| Table 4.10 | Model 1 (Regression Results for the Relationship between WCM and ROA) | 231 |
| Table 4.11 | Model 2 (Regression Results for the Relationship between WCM and ROE) | 238 |
| Table 4.12 | Model 3 (Regression Results for the Relationship between WCM and TQ) | 244 |
| Table 4.13 | Model 4 (Moderating Effect of Inflation Rates on WCM and ROA) | 250 |
| Table 4.14 | Model 5 (Moderating Effect of Inflation Rates on WCM and ROE) | 254 |
| Table 4.15 | Model 6 (Moderating Effect of Inflation Rates on WCM and TQ) | 258 |
| Table 4.16 | Model 7 (Moderating Effect of Interest Rates on WCM and ROA) | 263 |
| Table 4.17 | Model 8 (Moderating Effect of Interest Rates on WCM and ROE) | 268 |
| Table 4.18 | Model 9 (Moderating Effect of Interest Rates on WCM and TQ) | 272 |
| Table 4.19 | Model 10 Determination of Quadratic Relationship | 278 |
| Table 4.20 | Model 12 Deviation from Optimal Level of WCM Investment | 281 |
| Table 4.21 | Model 13 Deviation, Interact and WCM Investment Level | 283 |
| Table 4.22 | Model 14 (WCM and ROA during and after Financial Crisis) | 287 |
| Table 4.23 | Model 15 (WCM and ROE during and after Financial Crisis) | 290 |
| Table 4.24 | Model 16 (WCM and TQ during and after Financial Crisis) | 293 |
| Table 4.25 | Summary of Hypotheses Results and Decisions | 296 |
| Table 5.1 | Summary of Demographic Description of Participants | 303 |

LIST OF FIGURES

| | | |
|------------|---|-----|
| Figure 1.1 | The Return on Assets for the US Economy from 1965 to 2012 | 3 |
| Figure 1.2 | ROA Trend of Nigerian Companies | 5 |
| Figure 2.1 | Operating Cycle | 50 |
| Figure 3.1 | Research Framework | 138 |
| Figure 3.2 | Research Sketch of Sequential Explanatory Design | 157 |
| Figure 4.1 | P-Plot Normality Graph for ROA Model | 220 |
| Figure 4.2 | P-Plot Normality Graph for ROE Model | 220 |
| Figure 4.3 | P-Plot Normality Graph for the TQ Model | 220 |
| Figure 5.1 | Thematic Network Analysis of Data | 319 |



LIST OF APPENDICES

| | | |
|------------|--|-----|
| Appendix A | Interview Protocol 1 | 414 |
| Appendix B | Interview Protocol 2 | 415 |
| Appendix C | Interview Consent Letter | 416 |
| Appendix D | Thematic Analysis Checklist by Braun and Clarke (2006) | 417 |
| Appendix E | Breusch and Pagan Lagrangian Multiplier Test Results | 418 |
| Appendix F | Letter of Recommendation for Data Collection | 419 |
| Appendix G | Summary of Studies on WCM and Firm Performance | 420 |



LIST OF ABBREVIATIONS

| | |
|--------|---|
| APM | Accounts Payable Management |
| ARM | Accounts Receivable Management |
| CBN | Central Bank of Nigeria |
| CCC | Cash Conversion Cycle |
| CCE | Cash Conversion Efficiency |
| ECOWAS | Economic Community of West African States |
| EOQ | Economic Order Quantity |
| FE | Fixed Effects |
| FIFO | First In, First Out |
| INFLAR | Inflation Rates |
| INTER | Interest Rates |
| INVM | Inventory Management |
| JIT | Just in Time |
| LIFO | Last In, First Out |
| NBS | Nigerian Bureau of Statistics |
| NSE | Nigerian Stock Exchange |
| OLS | Ordinary Least Square |
| RE | Random Effects |
| ROA | Return on Assets |
| ROE | Return on Equity |
| TQ | Tobin's Q |
| WCM | Working Capital Management |



Universiti Utara Malaysia

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study investigates the moderating effect of economic conditions on the relationship between working capital management and firm performance in Nigeria. This study extends beyond the normal relationship between working capital management (WCM) and firm performance to examine the effect of macroeconomic conditions including inflation rates and interest rates on the effectiveness of WCM and firm performance. Drawing insights from different theoretical perspectives and incorporating these macroeconomic variables, that are contingent to the environments in which firms operate, has the potential to help managers improve the quality of their financing decisions and to enhance their financial performance.

This chapter therefore provides an introduction to the study, laying the foundation for the following chapters. It begins with this introduction, followed by an overview of the study's background in section 1.2. Section 1.3 provides a problem statement, leading to the research questions presented in section 1.4, and the research objectives in section 1.5. The study's scope has been presented in section 1.6. Section 1.7 details the study's significance, while a chapter outline has been presented in section 1.8.

The contents of
the thesis is for
internal user
only

REFERENCES

- Abiodun, B. Y. (2013). Effect of firm size on firm profitability in Nigeria. *Journal of Economics and Sustainable Development*, 4(5), 90–94.
- Abiodun, E. (2016, April 4). Orjiako: The cost of capital is killing business in Nigeria. *Thisday*. Retrieved from <https://www.thisdaylive.com/index.php/2016/04/04/orjiako-the-cost-of-capital-is-killing-businesses-in-nigeria/>.
- Abosede, S. A., & Luqman, O. S. (2014). A comparative analysis on working capital management of brewery companies in Nigeria. *International Journal of Finance and Accounting*, 3(6), 356–371.
- Abuzayed, B. (2012). Working capital management and firms' performance in emerging markets: The case of Jordan. *International Journal of Managerial Finance*, 8(2), 155–179.
- Ademola, O. J. (2014). Working capital management and profitability of selected quoted food and beverages manufacturing firms in Nigeria. *Eur. J. Acc. Audit. Financ. Res*, 2(3), 10–21.
- Adeyemi, S. L., & Salami, A. O. (2010). Inventory management: A tool of optimizing resources in a manufacturing industry a case study of Coca-Cola bottling company, Ilorin Plant. *Journal of Social Sciences*, 23(2), 135–142.
- Afeef, M. (2011). Analyzing the impact of working capital management on the profitability of SME's in Pakistan. *International Journal of Business and Social Science*, 2(22), 173–183.
- Afeef, M. (2014). The influence of working capital management on the profit performance of large non-financial corporations listed at Karachi stock exchange. *Life Science Journal*, 11(4), 100–104.
- Afrifa, G. A. (2013). *Working capital management and AIM listed SME companies' profitability: A mixed research method approach* (Doctoral thesis, Bournemouth University, UK). Retrieved from http://eprints.bournemouth.ac.uk/20968/Afrifa%20Godfred%20Adjapong_Ph.D._2013.pdf.
- Afrifa, G. A. (2015). Working capital management practices and profitability of AIM listed SMEs. *Journal of Enterprising Culture*, 23(1), 1–23.
- Afrifa, G. A. (2016). Net working capital, cash flow and performance of UK SMEs. *Review of Accounting and Finance*, 15(1), 21–44.

- Afrifa, G. A., & Padachi, K. (2016). Working capital level influence on SME profitability. *Journal of Small Business and Enterprise Development*, 23(1), 44–63.
- Afza, T., & Nazir, M. S. (2007a). Is it better to be aggressive or conservative in managing working capital? *Journal of Quality and Technology Management*, 3(2), 11–21.
- Agarwal, J. D. (1988). A goal programming model for working capital management. *Finance India*, 2(2), 49–61.
- Agarwal, S., Erramilli, M. K., & Dev, C. S. (2003). Market orientation and performance in service firms: Role of innovation. *Journal of Services Marketing*, 17(1), 68–82.
- Agha, H. (2014). Impact of working capital management on profitability. *European Scientific Journal*, 10(1), 374–381.
- Ahiuman-Young, V. (2016, March 24). Forex crisis: Food, beverage sector to sack 3m workers. *Vanguard*. Retrieved from <http://www.vanguardngr.com/2016/03/forex-crisis-food-beverage-sector-to-sack-3m-workers/>.
- Ailemen, O., & Folashade, O. (2014). Working capital management and profitability of the manufacturing sector: An empirical investigation of Nestle Nigeria Plc and Cadbury Nigeria Plc. *Global Journal of Management and Business Research*, 14(4), 20–28.
- Ajakaiye, O., Fakiyesi, T., & Oyinlola, M. (2009, April). Impact of the global financial crisis on the social services sector in Ghana and Nigeria. *CESifo Forum*, 10(4, pp. 36–42).
- Ajibolade, S. O., & Sankay, O. C. (2013). Working capital management and financing decision: Synergetic effect on corporate profitability. *International Journal of Management, Economics and Social Sciences*, 2(4), 233–251.
- Akinbuli, S. F. (2006). *Financial accounting, principles and application*. Lagos: Blueprint Publishers.
- Akindele J. A., & Odusina, A. O. (2015). Working capital management and firm profitability: Evidence from Nigerian quoted companies. *Research Journal of Finance and Accounting*, 6(7), 148–153.
- Akinleye, S. O., & Ekpo, S. (2013). Oil price shocks and macroeconomic performance in Nigeria. *Economia Mexica Nueva Epoca II*, 565–624.
- Akinlo, A. E. (2012). How important is oil in Nigeria's economic growth? *Journal of Sustainable Development*, 5(4), 165–179.

- Akinlo, O. O. (2012). Determinants of working capital requirements in selected quoted companies in Nigeria. *Journal of African Business*, 13(1), 40–50.
- Akinlo, O. O. (2012). Effect of working capital on Profitability of selected Quoted firms in Nigeria. *Global Business Review*, 13(3), 367–381.
- Akoto, R. K., Awunyo-Vitor, D., & Angmor, P. L. (2013). Working capital management and profitability: Evidence from Ghanaian listed manufacturing firms. *Journal of Economics and International Finance*, 5(9), 373–379.
- Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. *Journal of Corporate Finance*, 30, 98–113.
- Alam, H. M., Ali, L., Rehman, C. A., & Akram, M. (2011). Impact of working capital management on profitability and market valuation of Pakistani firms. *European Journal of Economics, Finance & Administrative Sciences*, 32, 48–54.
- Al-Debi'e, M. M. (2011). Working capital management and profitability: The case of industrial firms in Jordan. *European Journal of Economics, Finance and Administrative Sciences*, 36, 75–86.
- Alex, R. (2015, November 10). Business (list) that are finding it hard to survive under Buhari. *Nigerian Bulletin*. Retrieved from <http://www.nigerianbulletin.com/threads/list-companies-that-are-finding-it-hard-to-survive-under-buhari.140373/>
- Ali, S. (2011). Working capital management and the profitability of the manufacturing sector: A case study of Pakistan's textile industry Shahid. *Lahore Journal of Economics*, 16(2), 141–178.
- Ali, S., & Khan, M. R. A. (2011). Searching for internal and external factors that determine working capital management for manufacturing firms in Pakistan. *African Journal of Business Management*, 5(7), 29–42.
- Alipour, M. (2011). Working capital management and corporate profitability: Evidence from Iran. *World Applied Sciences Journal*, 12(7), 1093–1099.
- Allen, L. (1988). The determinants of bank interest margins: A note. *Journal of Financial and Quantitative Analysis*, 23(2), 231–235.
- Alli, F (2016, April 10). CBN averts the closure of 200 manufacturing firms through forex access. *Vanguard*. Retrieved from <http://www.vanguardngr.com/2016/04/cbn-averts-closure-200-manufacturing-firms-forex-access/>

- Almazari, A. A. (2013). The relationship between working capital management and profitability: Evidence from Saudi cement companies. *British Journal of Economics, Management & Trade*, 4(1), 146–157.
- Alrawi, H. A., & Thomas, S. S. (2007). Application of contingency theory of accounting information to the UAE banking sector. *Asian Academy of Management Journal*, 12(2), 33–55.
- Al-Shubiri, F. N. (2012). Debt ratio analysis and firm investment: Evidence from Jordan. *International Journal of Economics and Financial Issues*, 2(1), 21–26.
- Al-Shubiri, F. N., & Aburumman, N. M. (2013). The relationship between cash conversion cycle and financial characteristics of industrial sectors: an empirical study. *Investment Management and Financial Innovations*, 10(4), 95–102.
- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*, 23(4), 589–609.
- Anderson, D. R, Sweeney, D. J., Williams, T. A., Freeman, J., & Shoesmith, E. (2007). *Statistics for Business and Economics*. London: Thomson Learning.
- Angbazo, L. (1997). Commercial bank net interest margins, default risk, interest-rate risk, and off-balance sheet banking. *Journal of Banking & Finance*, 21(1), 55–87.
- Anna-Maria, T. Sari, M., Miia, P., & Timo, K. (2014). Modifying the cash conversion cycle: Revealing concealed advance payments. *International Journal of Productivity and Performance Management*, 63(3), 341–353.
- Appuhami, B. R. (2008). The impact of firms' capital expenditure on working capital management: An empirical study across industries in Thailand. *International Management Review*, 4(1), 8–12.
- Arshad, Z., & Gondal, M. (2013). Impact of working capital management on profitability: A case of the Pakistan cement industry. *Interdisciplinary Journal of Contemporary Research in Business*, 5(2), 384–390.
- Arunkumar, O. N., & Ramanan, T. (2013). Working capital management and profitability: A sensitivity analysis. *International Journal of Research and Development*, 2(1), 52–58.
- Asaju, K., & Yarie, E. (2013). Global financial crisis and economic development in Nigeria: The challenges of Vision 20: 2020. *Journal of Economics and Sustainable Development*, 4(4), 41–47.
- Asteriou, D., & Hall, S. G. (2015). *Applied econometrics*. New York, NY: Palgrave Macmillan.

- Atkinson, H., & Brown, J. B. (2001). Rethinking performance measures: Assessing progress in UK hotels. *International Journal of Contemporary Hospitality Management*, 13(3), 128–136.
- Attari, M. A., & Raza, K. (2012). The optimal relationship of cash conversion cycle with firm size and profitability. *International Journal of Academic Research in Business and Social Sciences*, 2(4), 189–203.
- Attride-Stirling, J. (2001). Thematic networks: An analytic tool for qualitative research. *Qualitative research*, 1(3), 385–405.
- Aygün, M. (2012). Firma Performansi Üzerinde Çalışma Sermayesinin Etkisi: Türk İmalat Sektörü Üzerine Bir Uygulama (The effect of working capital on firm performance: An examination on Turkish manufacturing Sectors). *Ege Akademik Bakış*, 12(2), 215–223.
- Ayub, Q. M. Y. (2015). Impact of working capital management on profitability of textile sector of Pakistan. *Business and Management*, 7(1), 174–185.
- Azam, M., & Haider, S. I. (2011). Impact of working capital management on firm' performance: Evidence from non-financial institutions of KSE-30 index. *Interdisciplinary Journal of Contemporary Research in Business*, 3(5), 481–492.
- Babu, M. N. S., & Chalam, G. V. (2014). Study on the working capital management efficiency in Indian leather industry - An empirical analysis. *International Journal of Research in Management & Technology*, 4(5), 196–201.
- Baghebo, M., & Atima, T. O. (2013). The impact of petroleum on economic growth in Nigeria. *Global Business and Economics Research Journal*, 2(5), 102–115.
- Baig, V. A. & Akhtar (2013). *Working capital management practices*. (1st ed.). New Delhi: ANMOL Publications Pvt. Ltd.
- Bakare, H., Kareem, R., & Oyelekan, B. (2015). Effects of inflation rate on economic growth in Nigeria (1986-2014). *IISTE*, 5(8), 153–160.
- Baltagi, B. H. (2005). *Econometric analysis of panel data*. (3rd ed.). Chichester, England: John Wiley & Sons.
- Banjoko, S. A., Iwuji, I. I., & Bagshaw, K. (2012). The performance of the Nigerian manufacturing sector: A 52-Year analysis of growth and retrogression (1960-2012). *Journal of Asian Business Strategy*, 2(8), 177–191.
- Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2014). Working capital management, corporate performance, and financial constraints. *Journal of Business Research*, 67(3), 332–338.

- Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2012). How does working capital management affect the profitability of Spanish SMEs? *Small Business Economics*, 39(2), 517–529.
- Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2013). The speed of adjustment in working capital requirement. *The European Journal of Finance*, 19(10), 978–992.
- Barine, M. N. (2012). Working capital management efficiency and corporate profitability: Evidences from quoted firms in Nigeria. *Journal of Applied Finance and Banking*, 2(2), 215–237.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Bartov, E., Radhakrishnan, S., & Krinsky, I. (2000). Investor sophistication and patterns in stock returns after earnings announcements. *The Accounting Review*, 75(1), 43–63.
- Baum, C. F. (2006). *An introduction to modern econometrics using Stata*. College Station, TX: Stata press.
- Bawa, S., & Abdullahi, I. S. (2012). Threshold effect of inflation on economic growth in Nigeria. *CBN Journal of Applied Statistics*, 3(1), 43–63.
- Berman, K., Knight, J., & Case, J. (2013). *Financial intelligence: A manager's guide to knowing what the numbers really mean*. Ogden, UT: Business Literacy Institute, Inc.
- Berzkalne, I., & Zelgalve, E. (2014). Return on equity and company characteristics: An empirical study of industries in Latvia. *The 8th International Days of Statistics and Economics, Prague*.
- Bhalla, V. K. (2011). *Working capital management – Text and cases* (13th ed.). India, New Delhi: ANMOL Publication Pvt. Ltd.
- Bhattacharya, H. (2007). *Working capital management: Strategies and techniques* (9th Printing). India, New Delhi: Prentice-Hall of India Learning Pvt. Ltd.
- Bhattacharya, H. (2008). *Theories of trade credit: Limitations and applications*. Available at SSRN 1286443.
- Bhunia, A., & Das, A. (2012). Affiliation between working capital management and profitability. *Interdisciplinary Journal of Contemporary Research in Business*, 3(9), 957–968.

- Bieniasz, A., & Gołaś, Z. (2011). The influence of working capital management on the food industry enterprises profitability. *Contemporary Economics*, 5(4), 68–81.
- Billi, R. M., & Kahn, G. A. (2008). What is the optimal inflation rate? *Economic Review-Federal Reserve Bank of Kansas City*, 93(2), 5–28.
- Bin Syed, S. J. A. N., Mohamad, N. N. S., Rahman, N. A. A., & Suhaimi, R. D. S. R. (2016). A study on relationship between inventory management and company performance: A case study of textile chain store. *Journal of Advanced Management Science*, 4(4), 299–304.
- Blakley, D. L., & Sti, A. D. (1991). Inflation and firm growth: A reassessment. In J. Spronk, & B. Benedetto (Eds.), *Modelling for financial decisions* (pp. 7-23). Berlin Heidelberg New York: Springer-Verlag.
- Blanca, M. J., Arnau, J., López-Montiel, D., Bono, R., & Bendayan, R. (2013). Skewness and kurtosis in real data samples. *Methodology. European Journal of Research Methods for the Behavioral and Social Sciences*, 9(2), 78-84.
- Blazenko, G. W., & Vandezande, K. (2002). Corporate holding of finished goods inventories. *Journal of Economics and Business*, 55(3), 255–266.
- Blinder, A. S., & Maccini, L. J. (1991). The resurgence of inventory research: What have we learned? *Journal of Economic Surveys*, 5(4), 291–328.
- Bogstrand, O., & Larsson, E. A. (2012). Have IFRS contributed to an increased value-relevance? The Scandinavian evidence. UPPSALA University. Department of Business Studies. Retrieved from <http://www.diva-portal.org/smash/get/diva2:546324/FULLTEXT01>
- Bouchard, Jr, T. J. (1976). Unobtrusive Measures: An inventory of uses. *Sociological Methods & Research*, 4(3), 267–300.
- Bougheas, S., Mateut, S., & Mizen, P. (2009). Corporate trade credit and inventories: New evidence of a trade-off from accounts payable and receivable. *Journal of Banking & Finance*, 33(2), 300–307.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77–101.
- Breusch, T. S., & Pagan, A. R. (1980). The Lagrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies*, 47(1), 239–253.

- Brown, S., Lo, K., & Lys, T. (1999). Use of R^2 in accounting research: Measuring changes in value relevance over the last four decades. *Journal of Accounting and Economics*, 28(2), 83–115.
- Bruinshoofd, A., & Kool, C. J. M. (2004). Dutch corporate liquidity management: New evidence on aggregation. *Discussion Paper Series/Tjalling C. Koopmans Research Institute*, 4(5), 1–34.
- Brush, T. H., Bromiley, P., & Hendrickx, M. (2000). The free cash flow hypothesis for sales growth and firm performance. *Strategic Management Journal*, 21(4), 455–472.
- Bulow, J. I., & Shoven, J. B. (1982). Inflation, corporate profits, and the rate of return to capital. In R. E. Hall (Ed.) *Inflation: Causes and effects* (pp. 233–260). Chicago, IL: University of Chicago Press.
- Burns, N & Grove, S. K. (2003). *Understanding nursing research* (3rd ed.). Philadelphia, PA: W.B. Saunders Company.
- Burrell, G. & Morgan G., (1979). *Sociological paradigms and organizational analysis*. London and Exeter, NH: Heinemann.
- Buxey, G. (2006). Reconstructing inventory management theory. *International Journal of Operations & Production Management*, 26(9), 996–1012.
- Callen, J. L., Morel, M., & Fader, C. (2003). The profitability-risk trade-off of just-in-time manufacturing technologies. *Managerial and Decision Economics*, 24(5), 393–402.
- Cameron, R. (2009). A sequential mixed model research design: Design, analytical and display issues. *International Journal of Multiple Research Approaches*, 3(2), 140–152.
- Carton, R. B. (2004). *Measuring organizational performance: An exploratory study* (Unpublished doctoral dissertation). University of Georgia, Athens, Georgia.
- Castro, F. G., Kellison, J. G., Boyd, S. J., & Kopak, A. (2010). A methodology for conducting integrative mixed methods research and data analyses. *Journal of Mixed Methods Research*, 4(4), 342–360.
- Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods*. Queensland: John Wiley & Sons.
- CBN (2007). CBN annual report & statement of accounts for the year ended 31st December 2007.

- CBN (2010). *Macroeconomic Model of the Nigerian Economy*. Central Bank of Nigeria.
- CBN (2011). *Central Bank of Nigeria Annual Report—2011*.
- CBN (2011). *Understanding monetary Policy*. No. 1.
- Charitou, M. S., Elfani, M., & Lois, P. (2010). The effect of working capital management on firm's profitability: Empirical evidence from an emerging market. *Journal of Business & Economics Research*, 8(12), 63–68.
- Charitou, M., Lois, P., & Santoso, H. B. (2012). The relationship between working capital management and firm's profitability: An empirical investigation for an emerging Asian country. *International Business & Economics Research Journal*, 11(8), 839–848.
- Chete, L. N., Adeoti, J. O., Adeyinka, F. M., & Ogundele, O. (2014). *Industrial development and growth in Nigeria: Lessons and challenges* (No. 2014/019). WIDER Working Paper.
- Chima, O. (2016, September 14). Policy inconsistency, bane of Nigeria's economic challenges. *Thisday*. Retrieved from <https://www.thisdaylive.com/index.php/2016/09/14/policy-inconsistency-bane-of-nigerias-economic-challenges/>
- Chimobi, O. P. (2010). Inflation and economic growth in Nigeria. *Journal of Sustainable Development*, 3(2), 159–166.
- Ching, H. Y., Novazzi, A., & Gerab, F. (2011). Relationship between working capital management and profitability in Brazilian listed companies. *Journal of Global Business and Economics*, 3(1), 74–86.
- Collier, P., & Gunning, J. W. (1999). Why has Africa grown slowly? *Journal of Economic Perspectives*, 13(3), 3–22.
- Comley, P. (2013). *Inflation tax: The plan to deal with the debts*. Pete Comley. Amazon.com. Retrieved from https://books.google.com.my/books?hl=en&lr=&id=oi3IQXzH5kgC&oi=fnd&pg=PP2&dq=Inflation+Tax:+The+Plan+to+Deal+with+the+Debts+By+Pete+Comley&ots=BroeUCvchD&sig=DAJIB1wG9KxcLK2LtdNRTREMF4c&redir_esc=y#v=onepage&q=Inflation%20Tax%3A%20The%20Plan%20to%20Deal%20with%20the%20Debts%20By%20Pete%20Comley&f=false
- Coskun, E., & Kök, D. (2011). Çalışma Sermayesi Politikalarının Karlılık Üzerine Etkisi: Dinamik Panel Uygulaması (Effect of working capital policies on profitability: A dynamic panel analysis). *Ege Akademik Bakış*, 11, 75–85.

- Cramer, J. S. (1987). Mean and variance of R^2 in small and moderate samples. *Journal of Econometrics*, 35(2-3), 253–266.
- Creswell, J. W. (1994). *Research design: Qualitative and quantitative approach*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds), *Handbook of mixed methods in social and behavioral research* (pp. 209–240). Thousand Oaks, CA: Sage.
- Dang, C., Li, Z. F., & Yang, C. (2018). Measuring firm size in empirical corporate finance. *Journal of Banking & Finance*, 86, 159–176.
- Danuletiu, A. E. (2010). Working capital management and profitability: A case of Alba county companies. *Annales Universitatis Apulensis: Series Oeconomica*, 12(1), 364–374.
- Darun, M. R., Roudaki, J. & Radford, J (2015). The evolution of working capital management research. *International Business Management* 9(5), 987–997.
- Dash, M., & Hanuman R. (2009). A liquidity-profitability trade-off model for working capital management. Retrieved from <http://ssrn.com/abstract=1408722>.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1408722
- Davis, D., (1996). *Business research for decision making* (4th ed.). Pacific Grove, CA: Duxbury Press.
- Daymon, C., & Holloway, I. (2010). *Qualitative research methods in public relations and marketing communications*, (2nd ed.). Abingdon: Routledge.
- Dehnel, G. (2014). Winsorization Methods in Polish Business Survey. *STATISTICS in Transition new series, Winter*, 15(1), 97–110.
- De-Loecker, J. (2013). Firm Performance in a global market. NBER working paper series. *National Bureau of Economic Research, Cambridge, MA*. Retrieved from <http://www.nber.org/papers/w19308>

- Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance & Accounting*, 30(3-4), 573–588.
- Demeter, K. (2003). Manufacturing strategy and competitiveness. *International Journal of Production Economics*, 81-82(11), 205–213.
- Dess, G. G., & Robinson, R. B. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, 5(3), 265–273.
- Dhar, P., & Paul, K. (2011). Determinants of working capital: An empirical inquest with reference to some selected public sector companies in India. *Journal of Business and Economic Issues*, 3(2), 36–47.
- Dimitrios, V., Eriotis, N., & Daskalakis, N. (2009). Testing the pecking order theory: The importance of methodology. *Qualitative Research in Financial Markets*, 1(2), 85–96.
- Doğan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, 4(4), 53–59.
- Donaldson, G. (1961). *Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity*. Boston: Division of Research, Graduate School of Business Administration, Harvard University.
- Donaldson, L. (2001). *The contingency theory of organizations*. India: Sage Publications, Pvt. Ltd.
- Dong, H., & Su, J. T. (2010). The relationship between working capital management and profitability: A Vietnam case. *Int. Res. J. Finance Econ.* 49, 50–69.
- Drukker, D. M. (2003). Testing for serial correlation in panel-data models. *Stata Journal*, 3(2), 168–177.
- Drury, C. M. (2013). *Management and cost accounting* (3rd ed.). New York, NY: Springer.
- Edith, O. (2015). The relevance, prospects and the challenges of the manufacturing sectors in Nigeria. *The Intuition*. Retrieved from www.globalacademicgroup.com/journals/theintuition/therelevance,prospectsandchallengesofmunufactupdf
- Eifert, B., Gelb, A., & Ramachandran, V. (2005). Business environment and comparative advantage in Africa: Evidence from the investment climate data. Center for Global Development Working Paper 56. Washington, D.C. Retrieved from SSRN 1112857.

- Ejiofor, C (2016, March 6) Osinbajo heads committee to address Nigeria's poor business performance. Osinbajo to boost Nigeria's performance in global business arena. *This Day*. Retrieved from <https://www.naij.com/754142-osinbajo-nigerian-business-nigerian-ministry-of-industry-trade-and-investment.html>
- Eljelly, A. M. (2004). Liquidity-profitability trade-off: An empirical investigation in an emerging market. *International Journal of Commerce and Management*, 14(2), 48–61.
- El-Maude, J. G., & Shuaib, A. I. (2016). Empirical examination of the association of working capital management and firms' profitability of the listed food and beverages firms in Nigeria. *Researchers World*, 7(1), 12–22.
- Emefiele, G. (2015, November 10). CBN concerned about rising non-performing loans. *Vanguard*. Retrieved from <http://www.vanguardngr.com/2015/11/cbn-concerned-about-rising-non-performing-loans/>
- Emery, D., & Finnerty, J. (1997). *Corporate financial management*. Englewood Cliffs, NJ: Prentice-Hall.
- Emery, F. E., & Trist, E. L. (1965). The causal texture of organizational environments. *Human Relations*, 18(1), 21–32.
- Emery, G. W. (1987). An optimal financial response to variable demand. *Journal of Financial and Quantitative Analysis*, 22(02), 209–225.
- Enqvist, J., Graham, M., & Nikkinen, J. (2014). The impact of working capital management on firm profitability in different business cycles: Evidence from Finland. *Research in International Business and Finance*, 32, 36–49.
- Eroglu, C., & Hofer, C. (2011). Inventory types and firm performance: Vector autoregressive and vector error correction models. *Journal of Business Logistics*, 32(3), 227–239.
- Etiennot, H., Preve, L. A., & Sarria-Allende, V. (2012). Working capital management: An exploratory study. *Journal of Applied Finance (Formerly Financial Practice and Education)*, 22(1), 1–14.
- Fabayo, J. A., & Ajilore, O. T. (2006). Inflation: How much is too much for economic growth in Nigeria. *Indian Economic Review*, 129–147.
- Falope, O. L., & Ajilore, O. T. (2009). Working capital management and corporate profitability: Evidence from panel data analysis of selected quoted companies in Nigeria. *Research Journal of Business Management*, 2(3), 73–84.

- Ferrando, A., & Mulier, K. (2013). Do firms use the trade credit channel to manage growth? *Journal of Banking & Finance*, 37(8), 3035–3046.
- Festus, A. F (2012). E-Business conflict resolution: Working capital management in resolving profitability distress in a profit making organization. *British Journal of Economics, Finance and Management Sciences*, 4(2), 81–94.
- Fiador, V. (2016). Does corporate governance influence the efficiency of working capital management of listed firms: Evidence from Ghana. *African Journal of Economic and Management Studies*, 7(4), 482–496.
- Field, A. (2005). *Discovering statistics using IBM SPSS* (3rd ed.). London: Sage.
- Field, A. (2012). *Discovering statistics using IBM SPSS* (4th ed.). London: Sage.
- Filbeck, G., & Krueger, T. M. (2005). An analysis of working capital management results across industries. *American Journal of Business*, 20(2), 11–20.
- Filbeck, G., Zhao, X., & Knoll, R. (2017). An analysis of working capital efficiency and shareholder return. *Review of Quantitative Finance and Accounting*, 48(1), 265–288.
- Finney, R. G. (1994). *Every manager's guide to business finance*. New York, NY: American Management Association (AMACOM).
- Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics*, 32(3), 485–512.
- Fisman, R., & Love, I. (2003). Trade credit, financial intermediary development, and industry growth. *The Journal of Finance*, 58(1), 353–374.
- Follett, R. (2012). *How to keep score in business: Accounting and financial analysis for the non-accounting*. (2nd ed.). Upper Saddle River, NJ: FT Press.
- Frank, S. U. J. (2015). Courtesy Visit by the Association to his Excellency, President Muhammadu Buhari, GCFR, President of the Federal Republic of Nigeria. Manufacturers Association of Nigeria. Retrieved from file:///C:/Users/J4JOY/Desktop/Manufacturers%20Association%20of%20Nigeria%20%28MAN%29.html]
- Gahala, C. L. (1996). *Credit management: Principles and practices* (2nd ed.). Baltimore, MD: Port City Press.
- Ganesan, V. (2007). An analysis of working capital management efficiency in telecommunication equipment industry. *Rivier Academic Journal*, 3(2), 1–10.

- García-Teruel, P., & Martínez-Solano, P. (2007). Effects of working capital management on SME profitability. *International Journal of Managerial Finance*, 3(2), 164–177.
- Gary, S. H., & Birger, W. (1989). Determinants of firm performance: The relative importance of economic and organizational factors. *Strategic Management Journal*, 10(5), 399–411.
- George, T. F., Lydia, L. F. S., & Franklin, Jr, F. J. P. (2002). *Essentials of corporate performance measurement*. New York, NY: John Wiley & Sons.
- Ghofar, A., & Islam, S. M. (2015). *Corporate governance and contingency theory: A structural equation modeling approach and accounting risk implications*. Cham, Switzerland: Springer.
- Gill, A., Biger, N., & Mathur, N. (2010). The relationship between working capital management and profitability: Evidence from the United States. *Business and Economics Journal*, 10(1), 1–9.
- Gitman, L. J. & Sachdeva K. S. (1984). A framework for estimating and analyzing the required working capital investment. *Review of Business and Economic Research*, 17(3), 36–44.
- Gitman, L. J. (1974). Estimating corporate liquidity requirements: A simplified approach. *Financial Review*, 9(1), 79–88.
- Glick, W. H., Washburn, N. T., & Miller, C. C. (2005, August). The myth of firm performance. *Proceedings of the Annual Meeting of American Academy of Management*. Honolulu, Hawaii.
- Goel, U., & Sharma, A. (2015). Working capital management efficiency in Indian manufacturing sector: Trends and determinants. *International Journal of Economics and Business Research*, 10(1), 30–45.
- Gong, G., Li, L. Y., & Wang, J. J. (2011). Serial correlation in management earnings forecast errors. *Journal of Accounting Research*, 49(3), 677–720.
- Graham, R., King, R., & Bailes, J. (2000). The value relevance of accounting information during a financial crisis: Thailand and the 1997 decline in the value of the baht. *Journal of International Financial Management & Accounting*, 11(2), 84–107.
- Green, C. G., & Martin, D. (2015). Diagnosing the presence of multivariate outliers in fundamental factor data using calibrated robust Mahalanobis distances (Working Paper). Retrieved from http://christophergreen.github.io/papers/mvoutliers_finance.pdf

- Greene, W. H. (2003). *Econometric analysis* (5th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Greene, W. H. (2008). *Econometric analysis* (6th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Grubbs, F. E. (1969). Procedures for detecting outlying observations in samples. *Technometrics*, 11(1), 1–21.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59–82.
- Gujarati, D. (2006). *Basic econometrics* (4th ed.). New York, NY: The McGraw-Hill Irwin.
- Gujarati, D., & Porter, D. (2009) Multicollinearity: What happens if the regressors are correlated? In *Basic Econometrics* (5th ed.) (pp. 320–364). New York, NY: McGraw-Hill Irwin.
- Gul, S., Khan, M. B., Rehman, S. U., Kahn, M. T., Khan, M., & Khan, W. (2013). Working capital management and performance of SME sector. *European Journal of Business and Management*, 5(1), 60–68.
- Guthman, H. G., & Dougaall, H. E. (1984). *Corporate financial policy* (2nd ed.). New York: Prentice-Hall Inc.
- Hagel, J., Brown, J. S., Samoylova, T., & Lui, M. (2013). Success or struggle: ROA as a true measure of business performance. *Report 3 of the 2013 Shift Index series*.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Hair, J. F., Black, W.C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Englewood Cliffs: Prentice Hall.
- Haq, I. Sohail, M., Zaman, K., & Alam, Z. (2011). The relationship between working capital management and profitability: A case study of cement industry in Pakistan. *Mediterranean Journal of Social Sciences*, 2(2), 365–372.
- Hausman, J. (1978). Specification tests in econometrics. *Econometrica*, 46, 1251–1271.
- Hausman, J. A., & Taylor, W. E. (1981). Panel data and unobservable individual effects. *Econometrica: Journal of the Econometric Society*, 49(6), 1377–1398.
- Hayes, D. C. (1977). The contingency theory of managerial accounting. *Accounting Review*, 52(1), 22–39.

- Hill, M. D., Kelly, G. W., & Highfield, M. J. (2010). Net operating working capital behavior: A first look. *Financial Management*, 39(2), 783–805.
- Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *Stata Journal*, 7(3), 281–312.
- Holliman, G., & Rowley, J. (2014). Business to business digital content marketing: Marketers' perceptions of best practice. *Journal of Research in Interactive Marketing*, 8(4), 269–293.
- Hsiao, C. (2003). *Analysis of panel data* (2nd ed.). Cambridge: Cambridge University Press.
- Hutchison, P. D., Farris II, M. T. & Anders, S. B., (2007). Cash-to-cash analysis and management. *The CPA Journal*, 77(8), 42–47.
- Ikechukwu, O. I. & Nwakaego, D. A. (2015). The effect of accounts payable ratio on the financial performance of food and beverages manufacturing companies in Nigeria. *Journal of Research in Business and Management*, 3(9), 15–21.
- Iqbal, A., & Zhuquan, W. (2015). Working capital management and profitability evidence from firms listed on Karachi stock exchange. *International Journal of Economics and Finance*, 7(2), 231–235.
- Islam, N. (1995). Growth empirics: A panel data approach. *The Quarterly Journal of Economics*, 110(4), 1127–1170.
- Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods*, 18(1), 3–20.
- Izuchukwu, C. D., & Patricia, C. N. (2015). Impact of inflation on economic growth in Nigeria (2000-2009). *International Journal of Business and Management Review*, 3(5), 26–34.
- James, O, Richard, & Victor, A. (2013). Interest rate targeting: A monetary tool for economic growth in Nigeria? - Stakeholders' approach. *Advances in Economics and Business* 1(2), 103–123.
- Javid, S. (2014). Effect of working capital management on SME's performance in Pakistan. *European Journal of Business and Management*, 6(12), 206–220.
- Javid, S., & Zita, V. P. M. (2014). Impact of working capital policy on firm's profitability: A case of Pakistan cement industry. *Research Journal of Finance and Accounting*, 5(5), 182 –191.

- Jayarathne, T. A. N. R. (2014, February). Impact of working capital management on profitability: Evidence from listed companies in Sri Lanka. In *Reshaping Management and Economic Thinking through Integrating Eco-Friendly and Ethical Practices: Proceedings of the 3rd International Conference on Management and Economics* (pp. 269–274). Sri Lanka: Faculty of Management and finance, University of Ruhuna.
- Jensen, M. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review*, 76(2), 323–339.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24(4), 602–611.
- John, A. O., & Adebayo, O. (2013). Effect of firm size on profitability: Evidence from Nigerian manufacturing sector. *Prime Journal of Business Administration and Management*, 3(9), 1171–1175.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14–26.
- Kaddumi, T. A., & Ramadan, I. Z. (2012). Profitability and working capital management: The Jordanian case. *International Journal of Economics and Finance*, 4(4), 217–226.
- Kadri, M. H., Aziz, R. A., & Ibrahim, M. K. (2010, December). Balanced scorecard equity valuation model. In *Proceedings of the 2010 International Conference on Science and Social Research* (pp. 25-30). Kuala Lumpur, Malaysia: IEEE.
- Kang, H. (2013). The prevention and handling of the missing data. *Korean Journal of Anesthesiology*, 64(5), 402–406.
- Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard – measures that drive performance. *Harvard Business Review*, January-February, 70(1), 71–79.
- Karaduman, H. A., Akbas, H. E., Caliskan, A. O., & Durer, S. (2011). The relationship between working capital management and profitability: Evidence from an emerging market. *International Research Journal of Finance and Economics*, 62(6), 61–67.
- Karaduman, H. A., Akbas, H. E., Ozsozgun, A., & Durer, S. (2010). Effects of working capital management on profitability: The case for selected companies in the

- Istanbul Stock Exchange (2005-2008). *International Journal of Economics and Finance Studies*, 2(2), 47–54.
- Kasiran, F. W., Mohamad, N. A., & Chin, O. (2016). Working capital management efficiency: A study on the small medium enterprise in Malaysia. *Procedia Economics and Finance*, 35, 297–303.
- Keh, H. T., Nguyen, T. T. M., & Ng, H. P. (2007). The effects of entrepreneurial orientation and marketing information on the performance of SMEs. *Journal of Business Venturing*, 22(4), 592–611.
- Kennerley, M., & Neely, A. (2003). Measuring performance in a changing business environment. *International Journal of Operations & Production Management*, 23(2), 213–229.
- Khan, M. S., & Senhadji, A. S. (2001). Threshold effects in the relationship between inflation and growth. *IMF Staff papers*, 48(1) 1–21.
- Kieschnick, R., Laplante, M., & Moussawi, R. (2006). Corporate working capital management: Determinants and consequences. *International Journal of Managerial Finance*, 3(2), 164–177.
- Kieschnick, R., Laplante, M., & Moussawi, R. (2013). Working capital management and shareholders' wealth. *Review of Finance*, 17(5), 1827–1852.
- Kline, R. B. (2011). *Principles and practice of structural equation modelling* (3rd ed.). New York: Guilford Press.
- Knopfer, N. N., & McLellan, H. (1996). Descriptive research methodologies. *Handbook of Research for Educational Communications and Technology* (pp. 1196-1212).
- Kola, J. (2014 June 26). Key note address by the president of manufacturers association of Nigeria, Chief Kola Jamodu, to the Nigeria infrastructure building conference 2014 held at the Four Points by Sheraton on Thursday June 26, 2014. Retrieved from <http://cowriepartners.com/wp-content/uploads/2014/07/Keynote-Address-by-MAN-President-at-the-Infrastructure-Conference.pdf>
- Kolapo, F. T., Oke, M. O., & Ajayi, L. B. (2015). Effect of working capital management on corporate performance: Cross-sectional evidence from Nigeria. *IOSR Journal of Business and Management*, 17(2), 93–103.
- Kontus, E. (2013). Management of accounts receivable in a company. *Ekonomika Misao i Praksa*, 22(1), 21–38.

- Kontuš, E. (2014). Management of inventory in a company. *Ekonomski Vjesnik/Econviews: Review of Contemporary Business, Entrepreneurship and Economic Issues*, 27(2), 245–256.
- Korankye, T., & Adarquah, R. S. (2013). Empirical analysis of working capital management and its impact on profitability of listed manufacturing firms in Ghana. *Research Journal of Finance and Accounting*, 4(1), 124–131.
- Kotler P. (1994). *Marketing management: Analysis planning implementation and control* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Koumanakos, D. P. (2008). The effect of inventory management on firm performance. *International Journal of Productivity and Performance Management*, 57(5), 355–369.
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology* (4th ed.). Thousand Oaks, CA: Sage.
- Ku, H. S., Mustapha, U., & Goh, S. (2010). Literature review of past and present performance of the Nigerian manufacturing sector. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 224(12), 1894–1904.
- Kurawa, J. M., & Garba, S. (2014). Impact of working capital management on the profitability of quoted Nigerian cement companies. *International Journal of Advanced Studies in Business Strategies and Management*, 2(1), 1741–8763.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative interviewing*. Los Angeles, CA: Sage.
- Lawal, A. A, Abiola, B. I, Oyewole, O. M. (2015) Effect of working capital management on the profitability of selected manufacturing companies in Nigeria. *International Journal of Sciences: Basic and Applied Research*, 19(2), 370–386.
- Lawrence, P. R., & Lorsch, J. W. (1967). *Organization and environment*. Homewood, IL: Irwin.
- Lazaridis, I., & Tryfonidis, D. (2006). Relationship between working capital management and profitability of listed companies in the Athens stock exchange. *Journal of Financial Management and Analysis*, 19(1), 1–12.
- Lebas, M., & Euske, K. (2002). A conceptual and operational delineation of performance. In A. Kneely (Ed.), *Business performance measurement: Theory and practice*, 65-79. Cambridge, England: Cambridge University Press.

- Lee, H. H., & Kleiner, B. H. (2001). Inventory management in the women's retail clothing industry. *Management Research News*, 24(3/4), 40–44.
- Lei, Z. (2006). *Measuring regional economic effects of low – cost carriers in the UK: A Panel Data Econometric Approach* (Unpublished Doctoral thesis). University of Surrey, School of Management.
- Lev, B., & Sunder, S. (1979). Methodological issues in the use of financial ratios. *Journal of Accounting and Economics*, 1(3), 187–210.
- Lewellen, W. G., Halloran, J. A., & Lanser, H. P. (2000). *Financial management: An introduction to principles and practice*. Nashville, TN: South-Western College Publishing.
- Lins, D. A., & Duncan, M. (1980). Inflation effects on financial performance and structure of the farm sector. *American Journal of Agricultural Economics*, 62(5), 1049-1053.
- LiveMint (2016, May 30). Indian firms bad in working capital cycle management. *EY Report*. Retrieved from <http://www.livemint.com/Companies/RJ7ePrex5C8ubsORBR3II/Indian-firms-bad-in-working-capital-cycle-management-EY-rep.html>
- Luiz, J. (2006). Challenges and prospects for economic and business development in Africa. Retrieved from http://www.iese.edu/en/files/John%20Luiz_tcm4-52018.pdf
- Lumley, T., Diehr, P., Emerson, S., & Chen, L. (2002). The importance of the normality assumption in large public health data sets. *Annual Review of Public Health*, 23(1), 151–169.
- Luo, M. M., Lee, J. J.-Y., & Hwang, Y. (2009). Cash conversion cycle, firm performance and stock value. *Financial Management Association Annual Meeting*, October 21-24, Reno-Lake Tahoe, Retrieved from www.fma.org/Reno/Papers/CCC_performance_value_FMA.pdf
- Lwiki, T., Ojera, P. B., Mugenda, N. G., & Wachira, V. K. (2013). The impact of inventory management practices on financial performance of sugar manufacturing firms in Kenya. *International Journal of Business, Humanities and Technology*, 3(5), 75 – 85.
- Lyroutdi, K., & Lazaridis, Y. (2000). *The cash conversion cycle and liquidity analysis of the food industry in Greece*. Paper Presented at EFMA 2000, Athens, June, Retrieved from <http://ssrn.com/paper14236175>

- Madhou, A., Moosa, I., & Ramiah, V. (2015). Working capital as a determinant of corporate profitability. *Review of Pacific Basin Financial Markets and Policies*, 18(4), 1–17.
- Maiga, A. S., & Jacobs, F. A. (2009). JIT performance effects: A research note. *Advances in Accounting*, 25(2), 183–189.
- Makori, D., & Jagongo, A. (2013). Working capital management and firm profitability: Empirical evidence from manufacturing and construction firms listed on Nairobi securities exchange, Kenya. *International Journal of Accounting and Taxation*, 1(1), 1–14.
- Mandal, N. Mahavidyalaya, B. N. S., & Goswami, B. S. (2010). Impact of working capital management on liquidity, profitability and non-insurable risk and uncertainty bearing: A case study of oil and natural gas commission (ONGC). *Great Lakes Herald*, 4(2), 21–42.
- Mansoori, D. E., & Muhammad, D. J. (2012). The effect of working capital management on firm's profitability: Evidence from Singapore. *Interdisciplinary Journal of Contemporary Research in Business*, 4(5), 472–486.
- Manyo, T. S. & Ike, U. J. (2013). The effect of account receivable on return on assets of selected firms in Nigeria, *International Journal of Current Research*, 5(12), 3767–3773.
- Manyo, T. S. (2013). Does cash conversion cycle have impact on return on assets of Nigerian firms? *Research Journal of Finance and Accounting*, 4(14), 34–42.
- Mark, I. (2016). FAAC: Nigeria revenue drops by 24.058 bn. *Daily Independence*. Retrieved from independentnig.com/2016/02/faac.nigeria-revenue-drops-n24-058bn
- Martínez-Sola, C., García-Teruel, P. J., & Martínez-Solano, P. (2014). Trade credit and SME profitability. *Small Business Economics*, 42(3), 561–577.
- Martínez-Sola, C., García-Teruel, P. J., & Martínez-Solano, P. (2013). Corporate cash holding and firm value. *Applied Economics*, 45(2), 161–170.
- Maswadeh, S. N. (2015). Association between working capital management strategies and profitability. *International Journal of Accounting and Financial Reporting*, 5(1), 91–98.
- Mathuva, M. D. (2010). The influence of working capital management components on corporate profitability: A survey on Kenyan listed firms. *Research Journal of Business Management*, 4(1), 1–11.

- Mathuva, M. D. (2013). Determinants of corporate inventory holding: Evidence from a developing country. *The International Journal of Applied Economics and Finance*, 7(1), 1–22.
- Mathuva, M. D. (2014). An empirical analysis of the determinants of the cash conversion cycle in Kenyan listed non-financial firms. *Journal of Accounting in Emerging Economies*, 4(2), 175–196.
- McGivern, M. H., & Tvorik, S. J. (1997). Determinants of organizational performance. *Management Decision*, 35(6), 417–435.
- McKinnon, R. I. (1973). *Money and capital in economic development*. Washington, DC: Brookings Institution Press.
- McShane, R. W., & Sharpe, I. G. (1985). A time series/cross section analysis of the determinants of Australian trading bank loan/deposit interest margins: 1962–1981. *Journal of Banking & Finance*, 9(1), 115–136.
- Miller, D. (1986). Configurations of strategy and structure: Towards a synthesis. *Strategic Management Journal*, 7(3), 233–249.
- Mirza, S. A., & Javed, A. (2013). Determinants of financial performance of a firm: Case of Pakistani stock market. *Journal of Economics and International Finance*, 5(2), 43–52.
- Mistry, J. J. (2005). Origins of profitability through JIT processes in the supply chain. *Industrial Management & Data Systems*, 105(6), 752–768.
- Mohamad, N. E. A. B., & Saad, N. B. M. (2010). Working capital management: The effect of market valuation and profitability in Malaysia. *International Journal of Business and Management*, 5(11), 140–147.
- Mohammed, N. (2011). *The effect of working capital policies management on firms' profitability Evidence from Manufacturing Private Limited Companies in Addis Ababa, Ethiopia* (Unpublished doctoral dissertation). Addis Ababa University.
- Moyer, R. C., Mcguigan, J. R., & Kretlow, W. J. (2003). *Contemporary financial management* (9th ed.). Stanford, CN: Thomson Learning.
- Muhammad, D. S., Lakhan, G. R., Zafar, S., & Noman, M. (2013). Rate of interest and its impact on investment to the extent of Pakistan. *Pakistan Journal of Commerce and Social Sciences*, 7(1), 91–99.
- Muhammad, M., Jan, W. U., & Ullah, K. (2012). Working capital management and profitability: An analysis of firms of textile industry of Pakistan. *Journal of Managerial Sciences*, 6(2), 155–165.

- Muritala, T. (2011). Investment, inflation and economic growth: empirical evidence from Nigeria. *Research Journal of Finance and Accounting*, 2(5), 68–76.
- Murphy, G. B., Trailer, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36(1), 15–23.
- Murthy, S. R. Y. (2015). Working capital, financing constraints and firm financial performance in GCC Countries. *Information Management and Business Review*, 7(3), 59–64.
- Murugesu, T. (2013). Effect of cash conversion cycle on profitability: Listed plantation companies in Sri Lanka. *Research Journal of Finance and Accounting*, 4(18), 132–137.
- Muscettola, M. (2014). Cash conversion cycle and firm's profitability: An empirical analysis on a sample of 4,226 manufacturing SMEs of Italy. *International Journal of Business and Management*, 9(5), 25–35.
- Myers, R. H. (1990). *Classical and modern regression with applications*. Boston, MA: PWS-KENT Publishing Co.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221.
- Napompech, K. (2012). Effects of working capital management on the profitability of Thai listed firms. *International Journal of Trade, Economics and Finance*, 3(3), 227–232.
- Narendar, V., Menon, S., & Shwetha, V. (2008). Factors determining working capital management in cement industry. *South Asian Journal of Management*, 15(4), 64–78.
- Nasser, A., T. A., Samat, O., & Othman, A. M. (2010). Working capital management performance in Air Asia, Malaysia Airlines and Qantas/Abu Thahir Abdul Nasser, Omar Samaf and Ahmad Marzuki Amiruddin Othman. *Social and Management Research Journal*, 7(1), 1–21.
- National Bureau of Statistics, (2014). Nigeria in 2014: Economic review and 2015 – 2017 Outlook. *National Bureau of Statistics*, Retrieved from <http://sparc-nigeria.com/GREAT/files/5-Economic-Update-source-materials/NBS-Economic-Review-2014-and%20Outlook-2015.pdf>
- Nazir, M. S., & Afza, T. (2009). Impact of aggressive working capital management policy on firms' profitability. *The IUP Journal of Applied Finance*, 15(8), 19–30.

- Nazir, M. S., & Afza, T. (2009). Working capital requirements and the determining factors in Pakistan. *The IUP Journal of Applied Finance*, 15(4), 28–38.
- Neely, A., Gregory, M., & Platts, K. (1995). Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management*, 15(4), 80–116.
- Ng, C. K., Smith, J. K., & Smith, R. L. (1999). Evidence on the determinants of credit terms used in interfirm trade. *The Journal of Finance*, 54(3), 1109–1129.
- Ngwenya, S. (2012). The relationship between working capital management and profitability of companies listed on the Johannesburg Stock Exchange. *Journal of Modern Accounting and Auditing*, 8(8), 1204–1213.
- Nha, D. B., & Loan, T. B. N. (2015). *Working capital management and firm value: Evidence from the Vietnamese Stock Market*. Available at SSRN 2648066.
- Nicholas, M. O. (2010). Interest rate deregulation, bank development and economic growth in South Africa: An empirical investigation. *International Business and Economic Journal*, 9(11), 131–142.
- Nigeria Economic Report (2015) *Discussion Series*. World Bank Group. No. 3. November.
- Nigerian Economic Outlook (2016, February 23) Economic forecasts from world's leading economists. *Focus Economics*. Retrieved from www.focus-economics.com/countries/Nigeria
- Nijam, H. M. (2016). Cash conversion cycle, its properties and profitability: Evidence from listed hotel companies in Sri Lanka. *Research Journal of Finance and Management*, 7(1), 23–32.
- Nilsen, J. H. (2002). Trade credit and bank lending channel. *Journal of Money, Credit and Banking*, 34 (1), 226–253.
- Niresh, A., & Thirunavukkarasu, V. (2014). Firm size and profitability: A study of listed manufacturing firms in Sri Lanka. *International Journal of Business and Management*, 9(4), 57–64.
- Njiforti, P. (2015). Impact of the 2007/2008 global financial crisis on the stock market in Nigeria. *CBN Journal of Applied Statistics*. 6(1a), 49–68.
- Nobanee, H. (2009). *Working capital management and firm's profitability: An optimal cash conversion cycle*. Available at SSRN 147123.

- Nobanee, H., & Al Hajjar, M. (2009). *A note on working capital management and corporate profitability of Japanese firms*. Available at SSRN 1433243.
- Nobanee, H., & Ellili, N. O. D. (2015). Working capital management and performance of Kuwait construction companies. *Corporate Ownership & Control*, 12(2), 349–355.
- Nobanee, H., Abdullatif, M. & AlHajjar, M. (2011). Cash conversion cycle and firm's performance of Japanese firms. *Asian Review of Accounting*, 19(2), 147–156.
- Nobanee, H., & Ellili, N. O. D. (2015). Does credit policy affect the performance of Saudi construction companies? *Aktual'ni Problemi Ekonomiki / Actual Problems of Economics*, 171(9), 226–234.
- Noreen, U., Khan, S. K., & Abbas, Q. (2009). International working capital practices in Pakistan. *International Research Journal of Finance and Economics*, 32(32), 160–170.
- NPC (2017). Nigerian's population now 182 million – NPC. Retrieved from <http://population.gov.ng/>
- Nurein, S. A., Din, M. S., & Mohd Rus, R. (2015). Nonlinear relationship between investment in working capital and performance: Innovative evidence from food and beverages industry. *European Journal of Economics, Finance and Administrative Sciences*, (77).63–72.
- Nwakaego, D. A., Dorathy, O. C., & Ikechukwu, O. (2014). Inventory management on the profitability of building materials and chemical and paint companies in Nigeria. *World Journal of Management and Behavioral Studies* 2(2), 21–27.
- Nyamao, N. R., Patrick, O., Martin, L., Odondo, A. J., & Simeyo, O. (2012). Effect of working capital management practices on financial performance: A study of small scale enterprises in Kisii South district, Kenya. *African Journal of Business Management*, 6(18), 5807–5817.
- Obamuyi, T. M. (2009). An investigation of the relationship between interest rates and economic growth in Nigeria, 1970-2006. *Journal of economics and International Finance*, 1(4), 93–98.
- Obansa, S. A., Okoroafor, O. D., Aluko, O. O., & Eze, M. (2013). Perceived relationship between exchange rate, interest rate and economic growth in Nigeria: 1970-2010. *American Journal of Humanities and Social Sciences*, 1(3), 116–124.
- Obert, M., & Olawale, F. (2010). Does debt really matter on the profitability of small firms? A perspective on small manufacturing firms in Bulawayo, Zimbabwe. *African Journal of Business Management*, 4(9), 1709–1716.

- Obura, J., & Anyango, C. (2015). Moderating effect of interest rates on relationship between foreign exchange rate fluctuation and performance of Nairobi securities exchange market. *Universal Journal of Accounting and Finance*, 4(2), 27–34.
- Odewale, R. W., & Kamardin, H. (2015). Company performance in Nigerian listed companies: Do large shareholders expropriate minority shareholders? *Mediterranean Journal of Social Sciences*, 6(6), 236–246.
- Odhiambo, N. M. (2008). Financial depth, savings and economic growth in Kenya: A dynamic causal linkage. *Economic Modelling*, 25(4), 704–713.
- Odularu, G. O. (2008). Crude oil and the Nigerian economic performance. *Oil and Gas Business*, 1–29.
- Ogbo, A. I., & Ukpere, W. I. (2014). The impact of effective inventory control management on organisational performance: A study of 7up bottling company Nile Mile Enugu, Nigeria. *Mediterranean Journal of Social Sciences*, 5(10), 109–118.
- Ogundipe, S. E., Idowu, A., & Ogundipe, L. O. (2012). Working capital management, firms' performance and market valuation in Nigeria. *World Academy of Science, Engineering and Technology*, 61(1), 1196–1200.
- Ojo A, S & Ololade. F O. (2014). An assessment of the Nigerian manufacturing sector in the era of globalization. *American Journal of Social and Management Sciences*. 5(1), 27–32.
- Oladipupo, A. O., & Okafor, C. A. (2013). Relative contribution of working capital management to corporate profitability and dividend payout ratio: Evidence from Nigeria. *International Journal of Business and Finance Research*, 3(2), 11–20.
- Olayemi, S. O., & Micheal, J. O. (2013). Real interest rate and savings mobilization in Nigeria. *International Journal of Development and Economic Sustainability*, 1(2), 28–40.
- Olusegun, A. (2013) *Manufacturing in Nigeria: Rising from the doldrums?* Retrieved from www.thisdaylive.com/article/manufacturing-in-nigeria-from-the-deldrums-/150749
- Omay, T., & Kan, E. Ö. (2010). Re-examining the threshold effects in the inflation–growth nexus with cross-sectionally dependent non-linear panel: Evidence from six industrialized economies. *Economic Modelling*, 27(5), 996–1005.
- Omolade, A., & Mukolu. M.O. (2013). Working capital and organization performance in Nigeria. *International Journal of Business and Management Invention*, 2(6)26–35.

- Omotola, A. H. (2013, November 11). Impact of the global financial crisis on the Nigerian economy. *Nigeria Economy. Proshare*. Retrieved from <https://www.proshareng.com/news/Nigeria%20Economy/Impact-of-the-Global-Financial-Crisis-on-the-Nigerian-Economy/21539>
- Onodje, M. A. (2014). Working capital management and performance of selected Nigerian manufacturing companies. *Global Journal of Management and Business Research: B Economics and Commerce* 14(3), 40–49.
- Onwumere, J. U. J., Okore, O. A., & Ibe, I. G. (2012). The impact of interest rate liberalization on savings and investment: Evidence from Nigeria. *Research Journal of Finance and Accounting*, 3(10), 130–136.
- Osundina, J. (2014). Working capital management and profitability: Evidence from quoted food and beverages manufacturing firms in Nigeria. *Research Journal of Finance and Accounting*, 5(4), 101–107.
- Osundina, J. A., & Osundina, K. C. (2014). The effect of working capital management on market value of quoted food and beverages manufacturing firms in Nigeria. *International Journal of Business and Social Science*, 5(8), 168–177.
- Otley, D. T. (1980). The contingency theory of management accounting: Achievement and prognosis. *Accounting, Organizations and Society*, 5(4), 413–428.
- Owolabi, S. A., & Alu, C. N. (2012). Effective working capital management and Profitability: A study of selected quoted manufacturing companies in Nigeria. *Economic and Finance Review*, 2(6), 55–67.
- Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: An analysis of Mauritian small manufacturing firms. *International Review of Business Research Papers*, 2(2), 45–58.
- Pais, M. A., & Gama, P. M. (2015). Working capital management and SMEs profitability: Portuguese evidence. *International Journal of Managerial Finance*, 11(3), 341–358.
- Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS program* (4th ed.). Sydney: Allen & Unwin.
- Pandey, I. M. (2005). *Financial Management* (9th ed.). New Delhi: Vikas Publishing House Pvt. Ltd.
- Pandey, I. M. (2013) *Financial Management* (10th ed.). New Delhi: Vikas Publishing House Pvt. Ltd.

- Panigrahi, A. K., & Sharma, A. (2013). Working capital management and firms' performance: An analysis of selected Indian cement companies. *Asian Journal of Research in Business Economics and Management*, 3(9), 115–130.
- Pass, C. L., & Pike, R. H. (1984). An overview of working capital management and corporate financing. *Managerial Finance*, 10(3), 1–11.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Newbury, CA: Sage.
- Peel, M. J., Wilson, N., & Howorth, C. (2000). Late payment and credit management in the small firm sector: Some empirical evidence. *International Small Business Journal*, 18(2), 17–37.
- Periasamy, P. (2009) *Financial Management* (2nd ed.). New Delhi: Tata McGraw – Hill Education Pvt. Ltd.
- Pervan, M., & Višić, J. (2012). Influence of firm size on its business success. *Croatian Operational Research Review*, 3(1), 213–223.
- Pike, R., & Cheng, N. S. (2001). Credit management: An examination of policy choices, practices and late payment in UK companies. *Journal of Business Finance & Accounting*, 28(7-8), 1013–1042.
- Ponsian, N. Chrispina, K. Tago, G. & Mkiibi, H. (2014). The effect of working capital management on profitability. *International Journal of Economics, Finance and Management Sciences*, 2(6), 347–355.
- Popova, V., & Sharpanskykh, A. (2010). Modeling organizational performance indicators. *Information Systems*, 35(4), 505–527.
- Premium Times (2012, September 11). 800 companies shut down in 3 years, says NACCIMA. *Premium Times*. Retrieved from <http://www.premiumtimesng.com/business/99757-800-companies-shut-down-in-3-years-says-naccima.html>
- Prempeh, K. B. (2015). The impact of efficient inventory management on portability: Evidence from selected manufacturing firms in Ghana. MPRA (pp: 1-6). Retrieved from https://mpra.ub.uni-muenchen.de/67889/1/MPRA_paper_67889.pdf
- PricewaterhouseCoopers (2014). Cash for Growth: Working capital in the manufacturing sector. Retrieved from <http://www.pwc.com/gx/en/working-capital-management-services/assets/pwc-working-capital.pdf>
- PricewaterhouseCoopers (2016). Poor working capital management costs industrial manufacturing industry 141 billion. Retrieved from

http://pwc.blogs.com/press_room/2016/02/poor-working-capital-management-costs-industrial-manufacturing-industry-141-billion-.html

- Punch (2016, April 19). Banks cut lending to companies, others. *Punch*. Retrieved from <http://punchng.com/banks-cut-lending-to-companies-others/>
- Quartey, P. (2003). *Finance and small and medium-sized enterprise development in Ghana* (Unpublished doctoral dissertation). University of Manchester.
- Qureshi, M. I., Iftikhar, M., Bhatti, M. N., Shams, T., & Zaman, K. (2013). Critical elements in implementations of just-in-time management: Empirical study of cement industry in Pakistan. *Springer Plus*, 2(1), 1–14.
- Rafuse, M. E. (1996). Working capital management: An urgent need to refocus. *Management Decision*, 34(2), 59–63.
- Raheman, A., & Nasr, M. (2007). Working capital management and profitability—case of Pakistani firms. *International Review of Business Research Papers*, 3(1), 279–300.
- Raheman, A., Afza, T., Qayyum, A., & Bodla, M. A. (2010). Working capital management and corporate performance of manufacturing sector in Pakistan. *International Research Journal of Finance and Economics*, 47(1), 151–163.
- Ramachandran, A., & Janakiraman, M. (2009). The relationship between working capital management efficiency and EBIT. *Managing Global Transitions*, 7(1), 61–74.
- Ramiah, V., Zhao, Y., & Moosa, I. (2014). Working capital management during the global financial crisis: The Australian experience. *Qualitative Research in Financial Markets*, 6(3), 332–351.
- Rao, P. (1971). Some notes on misspecification in multiple regressions. *The American Statistician*, 25(5), 37–39.
- Rao, R. K. S. (1989). *Fundamentals of financial management* (3rd ed.) New York: Macmillan.
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761–787.
- Reimann, C., Filzmoser, P., Garrett, R. G., & Dutter, R. (2011). Correlation. *Statistical Data Analysis*, 1(2), 181–191.

- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*, 35(3), 718–804.
- Richards, V. D., & Laughlin, E. J. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, 9(1), 32–38.
- Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2010). *Fundamentals of corporate finance* (9th ed.). New York, NY: McGraw-Hill/Irwin.
- Ross, S. A., Westerfield, R. W., & Jordan, B. D. (1999). *Essentials of corporate finance* (8th ed.). New York, NY: McGraw-Hill/Irwin.
- Roundtable (1999). The role of business in the 21st century: Strategy & leadership roundtable. *Strategy & Leadership*, 27(4/5), 26-30.
- Ruback, R. (2003). *Dell's working capital. Case Study, Case 9201-9729*. Boston, M.A.: Harvard Business School.
- Saghir, A., Hashmi, F. M., & Hussain, M. N. (2011). Working capital management and profitability: Evidence from Pakistan firms. *Interdisciplinary Journal of Contemporary Research in Business*, 3(8), 1092–1105.
- Sagner, J. S. (2011). *Essentials of working capital management*. Hoboken, NJ: John Wiley & Sons.
- Salami, D., & Kelikume, I. (2010). An estimation of inflation threshold for Nigeria (1970-2008). *International Review of Business Research Papers*, 6(5), 375–385.
- Salawu, R. O. (2007). Capital industry practice and aggressive conservative working capital policies in Nigeria. *Global Journal of Business Research*, 1(2), 109–117.
- Salek, J. G. (2005). *Accounts receivable management best practices*. Hoboken, NJ: John Wiley & Sons.
- Salman, A. Y., Folajin, O. O., & Oriowo, A. O. (2014). Working capital management and profitability: A study of selected listed manufacturing companies in Nigerian stock exchange. *International Journal of Academic Research in Business and Social Sciences*, 4(8), 287–295.
- Sami, H., & Zhou, H. (2004). A comparison of value relevance of accounting information in different segments of the Chinese stock market. *The International Journal of Accounting*, 39(4), 403–427.

- Samiloglu, F., & Akgün, A. İ. (2016). The relationship between working capital management and profitability: Evidence from Turkey. *Business and Economics Research Journal*, 7(2), 1–14.
- Samiloglu, F., & Demirgunes, K. (2008). The effect of working capital management on firm profitability: Evidence from Turkey. *The International Journal of Applied Economics and Finance*, 2(1), 44–50.
- Samson, A. A., Mary, J., Yemisi, B. F., & Erekpitan I. O. (2012). The impact of working capital management on the profitability of small and medium scale enterprises in Nigeria. *Research Journal of Business Management*, 6(2), 61–69.
- Sanni, G. K. (2006). Nigeria's external trade and the new perspectives for its enhancement. *CBN Bullion*, 30(1), 74–86.
- Santos, J. B., & Brito, L. A. L. (2009). Toward a measurement model for firm performance. *Encontro De Estudos Em Estratégia-Anpad*, 4, 1-16.
- Santos, J. B., & Brito, L. A. L. (2012). Toward a subjective measurement model for firm performance. *BAR-Brazilian Administration Review*, 9(SPE), 95-117.
- Sanusi, L. S. (2010). Global financial meltdown and the reforms in the Nigerian banking sector. Being the full text of a public lecture delivered at the convocation square, Abubakar Tafawa Balewa University, Bauchi, Friday, December 10, 2010. *Central Bank of Nigeria*. Retrieved from https://www.cenbank.gov.ng/OUT/SPEECHES/2010/GOV_ATBU%20CONVOCATION%20LECTURE.PDF
- Sanusi, L. S. (2010). Growth prospects for the Nigerian economy. Convocation lecture delivered at the Igbinedion University eighth convocation ceremony, Okada, Edo State, November 26, 2010. *Central Bank of Nigeria*. Retrieved from https://www.cbn.gov.ng/OUT/SPEECHES/2010/GOV_CONVOCATION_Lecture-IGBINEDION-UNIVERSITY-OKADA_2010.PDF
- Sarel, M. (1995). Nonlinear effects of inflation on economic growth. *IMF Working Paper*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=883204&download=yes
- Saunders, A., & Schumacher, L. (2000). The determinants of bank interest rate margins: An international study. *Journal of International Money and Finance*, 19(6), 813–832.
- Saunders, M. N., Lewis, P., & Thornhill, A. (2003). *Research methods for business students* (3rd ed.). Harlow: Prentice Hall.
- Savita, T. (2011). Impact of working capital management on the profitability of limited companies. *Advances in Management*, 4(10), 48–57.

- Schmidheiny, K., & Basel, U. (2011). Panel data: Fixed and random effects. *Short Guides to Microeconometrics*. Universitat Basel (pp 1–16). Retrieved from <https://www.schmidheiny.name/teaching/panel2up.pdf>
- Scholleova, H. (2012). The economic crisis and working capital management of companies. *Theoretical and Applied Economics*, 19(4), 79–92.
- Sekaran, U. (2006). *Research methods for business: A skill building approach* (4th ed.) United Kingdom: John Wiley & Sons.
- Sekaran, U., & Bougie, R. (2011). *Research methods for business: A skill building approach* (5th ed.). New Delhi: John Wiley & Sons.
- Sekaran, U., & Bougie, R. (2010). *Research methods for business*. (5th ed.). New Jersey: John Wiley & Sons.
- Sen, M., & Oruc, E. (2009). Relationship between efficiency level of working capital management and return on assets in Ise. *International Journal of Business and Management*, 4(10), 109–114.
- Shah, S. A., & Sana, A. (2006). Impact of working capital management on the profitability of oil and gas sector of Pakistan. *Editor-In-chief or European Journal of Scientific Research*, 15(3), 301–307.
- Shahzad, F., Luqman, R. A., Khan, A. R., & Shabbir, L. (2012). Impact of organizational culture on organizational performance: An overview. *Interdisciplinary Journal of Contemporary Research in Business*, 3(9), 975–985.
- Sharma, A. K., & Kumar, S. (2011). Effect of working capital management on firm profitability: Empirical evidence from India. *Global Business Review*, 12(1), 159–173.
- Sharma, M. P. G., & Kaur, M. R. P. (2016). Working capital management and its impact on profitability: A case study of Bharti airtel telecom company. *Imperial Journal of Interdisciplinary Research*, 2(3), 265–271.
- Shaw, E. S. (1973). *Financial deepening in economic development*. New York: Oxford, University Press.
- Shin, H. H., & Soenen, L. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice and Education*, 8(2), 37–45.
- Shin, S., Ennis, K. L., & Spurlin, W. P. (2015). Effect of inventory management efficiency on profitability: Current evidence from the US manufacturing industry. *Journal of Economics and Economic Education Research*, 16(1), 98–106.

- Shodipo, V. (2010). Sanusi Lamido Vs the Nigerian economy. Retrieved from www.renisaanceprofessional.com
- Siddiquee, M., & Khan, S. M. (2009). Analyzing working capital performance: Evidence from Dhaka stock exchange (DSE) Ltd. Retrieved from SSRN https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1374210
- Silverman, S., & Solomon, M. (1998). The unit of analysis in field research: Issues and approaches to design and data analysis. *Journal of Teaching in Physical Education*, 17(3), 270–284.
- Singh, J. P., & Pandey, S. (2008). Impact of working capital management in the profitability of Hindalco Industries Limited. *The IUP Journal of Financial Economics*, 6(4), 62–72.
- Singh, P. H., & Kumar, S. (2014). Working capital management: A literature review and research agenda. *Qualitative Research in Financial Markets*, 6(2), 173–197.
- Smith - Beaumont, M., N'Cho-Oguie, C., Murray, L. W., & Blakley, D. L. (2003). The effects of macroeconomic instability and inflation on sustainable real growth in South African firms. *South African Journal of Economic and Management Sciences*, 6(4), 666–692.
- Smith, K. (1980). Profitability versus liquidity tradeoffs in working capital management. *Readings on the Management of Working Capital*, 549–562.
- Soenen, L. A. (1993). Cash conversion cycle and corporate profitability. *Journal of Cash Management*, 13, 53–53.
- Soludo, C. C. (2009). Global financial and economic crisis: How vulnerable is Nigeria? Presentation by Professor CC Soludo, Governor of CBN to the House of Representative Committee on Bank Currency on Jan. 21, 2009.
- Soludo, C. C. (2009). The challenges of ensuring appropriate inflation rate, exchange rate and interest rate regimes in Nigeria: A background presentation. *Central Bank of Nigeria*. Retrieved from <https://searchworks.stanford.edu/view/9587909>
- Soni, A. (2013). *Working capital management: Principles and techniques*. New Delhi: India, MAYUR enterprise.
- Spineli, L. M., Fleming, P. S., & Pandis, N. (2015). Addressing missing participant outcome data in dental clinical trials. *Journal of Dentistry*, 43(6), 605–618.
- Stanko, B. B., Zeller, T. L., & Melena, M. F. (2014). Human asset accounting and measurement: Moving forward. *Journal of Business & Economics Research*, 12(2), 93–104.

- Stephen, M., & Elvis, K. (2011). Influence of working capital management on firm profitability: A case of SMEs in Kenya. *International Business Management*, 5(5), 279–286.
- Stiffler, M. A. (2006). *Performance: Creating the performance-driven organization*. Hoboken, NJ: John Wiley & Sons.
- Sunday, K. J. (2011). Effective working capital management in small and medium scale enterprises (SMEs). *International Journal of Business and Management*, 6(9), 271–279.
- Takon, S. M., & Atseye, F. A. (2015). Effect of working capital management on firm profitability in selected Nigerian quoted companies. *International Journal of Economics, Commerce and Management*, 3(10), 414–438.
- Talonpoika, A. M., Monto, S., Pirttilä, M., & Kärri, T. (2014). Modifying the cash conversion cycle: Revealing concealed advance payments. *International Journal of Productivity and Performance Management*, 63(3), 341–353.
- Tashakkori, A. & Teddlie, C. (2003). *Handbook on mixed methods in the behavioral and social sciences*. Thousand Oaks, CA: Sage.
- Tauringana, V., & Afrifa, A. G. (2013). The relative importance of working capital management and its components to SMEs' profitability. *Journal of Small Business and Enterprise Development*, 20(3), 453–469.
- Tendai, Z. & M. Enard, (2014). The association between working capital management and profitability of non-financial companies listed on the Zimbabwe stock exchange. *International Journal of Research in Social Sciences*, 3(8), 114–120.
- Thair, K. A., & Imad, R. Z. (2012). Profitability and working capital management: the Jordanian case. *International Journal of Economics and Finance*, 4(4), 217–226.
- Thompson, A. A., Strickland, A. J., & Gamble, J. E. (2010). *Crafting and executing strategy: The quest for competitive advantage* (17th ed.). New York, NY: McGraw-Hill.
- Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory*. New York, NY: McGraw-Hill.
- Thorp, R. (1971). *Inflation and the financing of economic development*. London: Macmillan Education.
- Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking*, 1(1), 15–29.

- Toby, A. (2014). Working capital management policy and corporate profitability of Nigerian quoted companies: A sectoral analysis. *International Journal of Financial Management*, 3(1), 9–20.
- Tong, Z. (2008). Deviations from optimal CEO ownership and firm value. *Journal of Banking & Finance*, 32(11), 2462–2470.
- Torres-Reyna, O. (2007). *Linear regression using Stata*. In Statistic Handout. Princeton University.
- Torres-Reyna, O. (2007). *Panel data analysis fixed and random effects using Stata (v. 4.2)*. Data & Statistical Services, Princeton University.
- Tsagem, M. M., Aripin, N., & Ishak, R. (2015). Impact of working capital management, ownership structure and board size on the profitability of small and medium-sized entities in Nigeria. *International Journal of Economics and Financial Issues*, 5 (SPE), 77–83.
- Tufail, S., Bilal, & Khan, J. (2013). Impact of working capital management on profitability of textile sector of Pakistan. In *Proceedings of 3rd International Conference on Business Management* (pp. 1–28).
- Udoka, C. O., & Anyingang, R. A. (2012). The effect of interest rate fluctuation on the economic growth of Nigeria, 1970–2010. *International Journal of Business and Social Science*, 3(20), 295–302.
- Ukaegbu, B. (2014). The significance of working capital management in determining firm profitability: Evidence from developing economies in Africa. *Research in International Business and Finance*, 31, 1–16.
- Umaru, A., & Zubairu, A. A. (2012). Effect of inflation on the growth and development of the Nigerian economy (An empirical analysis). *International Journal of Business and Social Science*, 3(10), 183–190.
- Uremadu, S. O., Egbide, B. C., & Enyi, P. E. (2012). Working capital management, liquidity and corporate profitability among quoted firms in Nigeria: Evidence from the productive sector. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 2(1), 80–97.
- Usama, M. (2012). Working capital management and its affect on firm's profitability and liquidity: In other food sector of (KSE) Karachi stock exchange. *Arabian Journal of Business and Management Review (Oman Chapter)*, 1(12), 62–73.
- Uwuigbe, O., Uwalomwa, U., & Egbide, B. C. (2012). Cash management and corporate profitability: A study of selected listed manufacturing firms in Nigeria. *Acta Universitatis Danubius. Œconomica*, 8(1), 49–59.

- Vahid, T. K., Elham, G., khosroshahi Mohsen, A., & Mohammadreza, E. (2012). Working capital management and corporate performance: Evidence from Iranian companies. *Procedia-Social and Behavioral Sciences*, 62, 1313–1318.
- Van–Wijnbergen, S. (1983). Credit policy, inflation and growth in a financially repressed economy. *Journal of Development Economics*, 13(1), 45–65.
- Vatcheva, K. P., Lee, M., McCormick, J. B., & Rahbar, M. H. (2016). Multicollinearity in regression analyses conducted in epidemiologic studies. *Epidemiology (Sunnyvale, Calif.)*, 6(2), 1–9.
- Vishnani, S., & Shah, B. K. (2007). Impact of working capital management policies on corporate performance—An empirical study. *Global Business Review*, 8(2), 267–281.
- Vural, G., Sökmen, A. G., & Çetenak, E. H. (2012). Affects of working capital management on firm's performance: Evidence from Turkey. *International Journal of Economics and Financial Issues*, 2(4), 488–495.
- Wallin, C., Rungtusanatham, M. J., & Rabinovich, E. (2006). What is the “right” inventory management approach for a purchased item? *International Journal of Operations & Production Management*, 26(1), 50–68.
- Walter, E. (1996). How low profitability and weak innovativeness undermined UK industrial growth. *The Economic Journal*, 106(434), 184–195.
- Wang, Y. J. (2002). Liquidity management, operating performance, and corporate value: Evidence from Japan and Taiwan. *Journal of Multinational Financial Management*, 12(2), 159–169.
- Wasiuzzaman, S. (2015). Working capital and firm value in an emerging market. *International Journal of Managerial Finance*, 11(1), 60–79.
- Wasiuzzaman, S., & Arumugam, V. C. (2013). Determinants of working capital investment: A study of Malaysian public listed firms. *Australasian Accounting Business & Finance Journal*, 7(2), 49–69.
- Weston J. F., & Brigham, E. F. (1975). *Managerial finance* (5th ed.). Hinsdale, Illinois: Dryden press.
- Williams, R (2015). Serial correlation – optional, very brief overview. University of Notre Dame. Retrieved from <https://www3.nd.edu/~rwilliam/stats2/l26.pdf>
- Wimmer, R. D., & Dominick, J. R. (2013). *Mass media research*. Boston, MA: Cengage Learning.

- Woodward, J. (1965). *Industrial organization: Theory and practice*, 3. London: Oxford University Press.
- Wooldridge, J. M. (2002) *Econometric analysis of cross section and panel data*. Cambridge, MA: MIT press.
- Wooldridge, J.M. (2009). *Introductory economics: A modern approach* (4th ed.). Nashville, TN: South – Western.
- World Bank Group (2016) *Doing business 2016: Measuring regulatory quality and efficiency*. Washington, DC: World Bank Publications.
- World Bank Group (2013). *Doing Business 2014: Understanding regulations for small and medium-size enterprises*. Washington, DC: World Bank Publications.
- Yaffee, R. (2003). *A primer for panel data analysis*. Connect: Information Technology at NYU.
- Yazdanfar, D., & Öhman, P. (2014). The impact of cash conversion cycle on firm profitability: An empirical study based on Swedish data. *International Journal of Managerial Finance*, 10(4), 442–452.
- Yazdanfar, D., & Öhman, P. (2015). Debt financing and firm performance: An empirical study based on Swedish data. *The Journal of Risk Finance*, 16(1), 102–118.
- Yazdanfar, D., & Öhman, P. (2017). Substitute or complement? The use of trade credit as a financing source among SMEs. *Management Research Review*, 40(1), 10–27.
- Yegon, C. K., Kiprono, K. J., & Willy, C. (2014). Working capital management and corporate financial performance: Evidence from panel data analysis of selected quoted tea companies in Kenya. *Research Journal of Finance and Accounting*, 5(5), 53–62.
- Zakari, M., & Saidu, S. (2016). The impact of cash conversion cycle on firm profitability: Evidence from Nigerian listed telecommunication companies. *Journal of Finance and Accounting*, 2(6), 342–350.
- Zapalska, A., Clark, R., & Shao, L. (2004). Funding working capital requirements in emerging markets perspective. *Investment Management and Financial Innovations*, 1, 88–99.
- Zariyawati, M. A., Annuar, M. N., Taufiq, H., & Rahim, A. A. (2009). Working capital management and corporate performance: Case of Malaysia. *Journal of Modern Accounting and Auditing*, 5(11), 47–56.

- Zeithaml, V. A., Rajan Varadarajan, P., & Zeithaml, C. P. (1988). The contingency approach: Its foundations and relevance to theory building and research in marketing. *European Journal of Marketing*, 22(7), 37–64.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2009). *Business research method* (8th ed.). Boston, MA: South Western Cengage Learning.
- Zingwiro, P. T. S. (2006). Working capital management in hyper-inflationary economies: A case of Zimbabwe (Unpublished doctoral dissertation). University of Kwa-Zulu Natal.



Appendix A

Interview Protocol 1



**Pusat Pengajian Perakaunan
Tunku Puteri Intan Safinaz**

TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY

Universiti Utara Malaysia

Dear Participants,

I am a Ph.D. candidate in the business school at the Universiti Utara Malaysia. I am conducting research work on the impact of economic conditions on working capital management and firm performance in Nigeria. The objective of this research is to identify the macroeconomic and environmental factors that influence the association between working capital management and firm performance in Nigeria. Thus, this study aims to develop a framework that will help align the internal strategies of firms to the contingents of their environment so that these strategies are fit. This is because a firm whose strategies are fit enjoys higher performance while a misfit lowers firm performance and has serious negative implications for a company's survival.

Your participation in this interview is voluntary and will take about one hour of your valuable time. Information provided during the interview will be noted and recorded and will be used solely for this research purpose as part of the researcher's Ph.D. programme. The results will be published in academic journals to meet the requirements of graduation for a Ph.D. in accounting from the Universiti Utara Malaysia, Sintok, Malaysia.

Any complaints or further enquiries should be directed to Dr. Norfaiezah Sawandi (ezah@uum.edu.my) or Prof. Muhammed Ali Abdul-Hamid (malizai25@gmail.com). They will be happy to provide you with individual responses.

Your kind and objective participation would be appreciated in this interview, as it will significantly contribute to the achievement of the aforementioned objective.

Thank you

Research Student

Sunday Simon

+ 2348033489450

+60143445245.

simonsunday016@gmail.com

Appendix B

Interview Protocol 2



**Pusat Pengajian Perakaunan
Tunku Puteri Intan Safinaz**
TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY
Universiti Utara Malaysia

The focus of this interview is to understand managers' perceptions on the effectiveness of working capital management practices on firm performances in Nigeria.

| Interview Objective | Interview Questions |
|---|---|
| To explore the working capital management practices of firms in Nigeria | (1) How would you describe the working capital management practices in your company? (2) What are the important components of working capital management in your company? (3) How would you describe the implications of working capital management on the financial performance of your company? |
| To investigate the effect of economic conditions of firms on the effectiveness of working capital management | (4) What are the key economic constraints affecting your company? (5) To what extent have these factors affected the performance and growth of your company? (6) How would you describe the strategies adopted against the economic constraints faced by your company? |
| To investigate the differences in working capital management efficiency during and after financial crisis of 2007-2008. | (7) In your opinion, was there a difference in the efficiency of working capital management during and after the financial crisis in your company? (8) Did your company face an economic crisis during the period from 2007 to 2008 and did the crisis affect the efficiency of working capital management of your company based on your experience? |

Appendix C
Interview Consent Letter

**Perception of Managers on the effectiveness of Working Capital
Management Practices on Firm Performance in Nigeria**

I hereby grant Sunday Simon permission to document this interview through audio recording and transcription of the oral interview as part of his Ph.D. research at the School of Accounting, Universiti Utara Malaysia. The purpose and nature of the interview has been explained to me. On this basis, I agree to participate as a subject in the research, and I consent to publication of the results of the project with the understanding that anonymity will be preserved. I understand also that I may withdraw from the project, including withdrawal of any information I have provided in seven days' time from the interview date.

Signature of the Participant

Name

Company/Position

ID: ____ (This number will be recorded with your data, so we can withdraw it at your request)

Appendix D

Thematic Analysis Checklist by Braun and Clarke (2006)

A 15 - Point Checklist of Criteria for Good Thematic Analysis

| Process | No. | Criteria |
|----------------|-----|--|
| Transcription | 1 | The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy' |
| | 2 | Each data item has been given equal attention in the coding process |
| Coding | 3 | Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive. |
| | 4 | All relevant extracts for all each theme have been collated |
| | 5 | Themes have been checked against each other and back to the original data set. |
| | 6 | Themes are internally coherent, consistent, and distinctive. |
| Analysis | 7 | Data have been analyzed - interpreted, made sense of - rather than just paraphrased or described. |
| | 8 | Analysis and data match each other - the extracts illustrate the analytical claims. |
| | 9 | Analysis tells a convincing and well-organised story about the data and topic. |
| | 10 | A good balance between analytic narrative and illustrative extracts is provided. |
| Overall | 11 | Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once -over-lightly. |
| Written report | 12 | The assumptions about, and specific approach to, thematic analysis are clearly explicated. |
| | 13 | There is a good fit between what you claim you do, and what you show you have done - i.e., described method and reported analysis are consistent. |
| | 14 | The language and concepts used in the report are consistent with the epistemological position of the analysis. |
| | 15 | The researcher is positioned as <i>active</i> in the research process; themes do not just 'emerge'. |

Appendix E

Breusch and Pagan Lagrangian Multiplier Test Results

Table 4. 9A: Breusch and Pagan Lagrangian Multiplier Test for Random Effects

| | Direct Relationship | | |
|----------------|---------------------|---------|---------|
| | Model 1 | Model 2 | Model 3 |
| Variables | ROA | ROE | TQ |
| chibar2(01) | 377.41 | 255.21 | 549.04 |
| Prob > chibar2 | 0.0000 | 0.0000 | 0.0000 |

```
. xttest0
Breusch and Pagan Lagrangian multiplier test for random effects
ROA[ID,t] = Xb + u[ID] + e[ID,t]
Estimated results:
      |          Var          sd = sqrt(Var)
-----+-----
ROA |      .009494      .0974374
e   |      .0042957      .0655412
u   |      .0028819      .0536833
Test:  Var(u) = 0
      chibar2(01) =    377.41
      Prob > chibar2 =    0.0000
. xttest0
Breusch and Pagan Lagrangian multiplier test for random effects
ROEE[ID,t] = Xb + u[ID] + e[ID,t]
Estimated results:
      |          Var          sd = sqrt(Var)
-----+-----
ROEE |      .0508581      .2255173
e   |      .0287938      .1696874
u   |      .0146725      .1211299
Test:  Var(u) = 0
      chibar2(01) =    255.21
      Prob > chibar2 =    0.0000
. xttest0
Breusch and Pagan Lagrangian multiplier test for random effects
TOBINSQ[ID,t] = Xb + u[ID] + e[ID,t]
Estimated results:
      |          Var          sd = sqrt(Var)
-----+-----
TOBINSQ |      2.284725      1.511531
e   |      1.031444      1.0156
u   |      1.003358      1.001678
Test:  Var(u) = 0
      chibar2(01) =    549.04
      Prob > chibar2 =    0.0000.
```

Appendix F

Letter of Recommendation for Data Collection



OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA



Tel.: 604-928 7101/7113/7130
Faks (Fax): 604-928 7160
Laman Web (Web): www.oyagsb.uum.edu.my

KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/R-4/4/1
24 August 2016

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Simon Sunday (Matric No: 900783)** is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia pursuing his Doctor of Philosophy (PhD). He is conducting a research entitled **"The Impact of Economic Conditions on Working Capital Management and Firm Performance in Nigeria"** under the supervision of Prof. Dr. Mohamad Ali bin Abdul Hamid.

In this regard, we hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"KNOWLEDGE, VIRTUE, SERVICE"

Yours faithfully


ROZITA BINTI HAMLI
Assistant Registrar
for Dean

Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor
- Student's File (900783)

Universiti Pengurusan Terkemuka
The Eminent Management University



Appendix G

Summary of Studies on WCM and Firm Performance

| AUTHORS AND DATES | TITLE | COUNTRY | METHOD AND SAMPLE | VARIABLES | | RESULT |
|---------------------------------|--|---------|---|---|---|--|
| | | | | INDEPENDENTS | DEPENDENT (S) | |
| Deloof (2003) | Does working capital management affect profitability of Belgian firms? | Belgium | Fixed Effect Model 1,009 non-financial firms | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Gross Operating Income | 1. Negative/Significant 2. Negative/Significant 3. Negative/Significant 4. Negative/Significant |
| Sharma and Kumar (2011) | Effect of Working Capital Management on Firm Profitability: Empirical Evidence from India | Indian | OLS 263 non-financial firms | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Return on Asset | 1. Positive/Significant 2. Negative/Insignificant 3. Negative/Insignificant 4. Positive/Insignificant |
| Abuzayed (2012) | Working Capital Management and Firm's Performance in Emerging Markets: the Case of Jordan. | Jordan | Fixed Effect 52 non-financial firms | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Gross Operating Income Tobin's Q | 1. Positive/Significant 2. Positive/Significant 3. Negative/Significant 4. Positive/Significant 5. Negative/Significant 6. Negative/Significant 7. Positive/Significant 8. Negative/Significant |
| Lazaridis and Tryfonidis (2006) | The relationship between working capital management and | Greece | Regression | 1. Accounts Receivable 2. Inventory 3. Accounts Payable | Gross Operating Profit | 1. Negative/Significant 2. Negative/Significant 3. Negative/Significant |

| | | | | | | |
|--|---|----------|---|---|-----------------------------|---|
| | profitability of listed companies in Athens Stock Exchange. | | 131 non-financial firms. | 4. Cash Conversion Cycle | | 4. Negative/Significant |
| Akinlo (2012) | Effect of Working Capital on Profitability of Selected Quoted Firms in Nigeria. | Nigeria | Fixed Effect 66 non-financial firms. | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Return on Asset | 1. Negative/Insignificant 2. Negative/Significant 3. Negative/Insignificant 4. Negative/Insignificant |
| Raheman et al (2010) | Working capital management and Corporate Performance of Manufacturing Sector in Pakistan | Pakistan | Fixed Effect 204 Manufacturing firms listed on Karachi Stock Exchange. | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle 5. Net Trading Cycle | Net Operating Profitability | 1. Negative/Insignificant 2. Negative/Significant 3. Positive/Insignificant 4. Negative/Significant 5. Negative/Significant |
| Mathuva (2010) | The Influence of Working Capital Management Components on Corporate Profitability: A survey on Kenyan Listed Firms. | KENYA | Fixed Effect/OLS 30 firms listed on Nairobi Stock Exchange | 1. Account Collection Period 2. Inventory Conversion 3. Average Payment Period 4. Cash Conversion Cycle | Net Operating profit | 1.Negative/Significant 2.Positive/Significant 3.Positive/ Significant 4. Negative/ Significant |
| Falope and Ajilore (2009) | Working Capital Management and Corporate Profitability: Evidence from Panel Data Analysis of Selected Quoted Companies in Nigeria | Nigeria | Fixed Effect 50 non-financial firms | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Return on Asset | 1. Negative/Significant 2. Negative/Significant 3. Positive/Significant 4. Negative/Significant |
| Garcia-Teruel and Martinez-Solano (2007) | Effects of working capital management on SME profitability | Spain | Fixed Effect 8,872 SMEs | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle. | Return on Asset | 1. Negative/Significant 2. Negative/Significant 3. Negative/Significant 4. Negative/Significant. |

| | | | | | | |
|----------------------------|---|----------|--|---|---|---|
| Enqvist, et al. (2014). | The impact of working capital management on firm profitability in different business cycles: Evidence from Finland. | Finland | Regression 1,136 firm year observations. | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Return on Asset Gross Operating Income | 1. Negative/Insignificant 2. Negative/Significant 3. Negative/Insignificant 4. Negative/Significant 5. Negative/Insignificant 6. Negative/Significant 7. Negative/Significant 8. Negative/Significant. |
| Mohamad and Saad (2010) | Working Capital Management: The Effect of Market Valuation and Profitability in Malaysia | Malaysia | Regression (SPSS) 172 Listed Companies | 1. Cash Conversion Cycle 2. Current Asset to Current Liabilities Ratio 3. Current Assets to Total Assets Ratio 4. Current Liabilities to Total Asset Ratio 5. Total Debt to Total Assets Ratio. | 1. Tobin' s Q 2. Return on Assets 3. Return on Invested Capital | 1. Negative/Significant 2. Negative/Insignificant 3. Positive/Significant 4. Negative/Significant 5. Positive/Significant 6. Negative/Significant 7. Negative/Significant 8. Positive/Significant 9. Negative/Significant 10. Negative/Significant 11. Negative/Significant 12. Negative/Significant 13. Positive/Significant 14. Negative/Significant 15. Negative/Insignificant |
| Tauringana & Afrifa (2013) | The relative importance of working capital management and its components to SMEs' profitability | UK | Random Effects 133 firms for both Panel data analysis and questionnaire survey. | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Return on Assets | 1. Negative/Significant 2. Negative/Insignificant 3. Negative/Significant 4. Negative/Insignificant |

| | | | | | | |
|-------------------------------|---|----------|---|--|--|---|
| Osundina and Osundina (2014) | The Effect of Working Capital Management on Market Value of Quoted Food and Beverages Manufacturing Firms in Nigeria. | Nigeria | Survey research 12 quoted food and beverages manufacturing firms were chosen and 120 questionnaires were administered. | 1. Accounts Collection Period 2. Inventory Conversion 3. Accounts Payable Period 4. Cash Conversion Period 5. Aggressive Investment Policy | Tobin's Q | 1. Positive/Significant 2. Positive/Significant 3. Positive/Significant 4. Positive/Significant 5. Positive/Significant |
| Gill, Biger and Mathur (2010) | The Relationship Between working Capital management and Profitability: Evidence from The United States. | USA | Weighted Least Square 88 firms | 1. Accounts Receivable 2. Accounts Payable 3. Inventory 4. Cash conversion Cycle | Gross Operating Profit | 1. Negative/Significant 2. Negative/Insignificant 3. Positive/Insignificant 4. Positive/Significant |
| Wasiuzzaman (2015) | Working Capital and Profitability in Manufacturing Firms in Malaysia: An Empirical Study. | Malaysia | OLS 160 manufacturing firms | 1. Inventory 2. Accounts Receivables 3. Accounts payables 4. Working Capital (NWC) | Return on Asset | 1. Negative/Insignificant 2. Negative/Significant 3. Negative/Significant 4. Negative/Insignificant |
| Sharma and Kumar (2011) | Effect of Working Capital Management on Firm Profitability: Empirical Evidence from India | India | OLS 263 non-financial firms | 1. Accounts Receivable 2. Inventory 3. Accounts Receivable 4. Cash Conversion Cycle | Return on Asset | 1. Positive/Significant 2. Negative/Insignificant 3. Negative/Insignificant 4. Positive/Insignificant |
| Afeef (2011) | Analyzing the Impact of Working Capital Management on the Profitability of SME's in Pakistan | Pakistan | SPSS 40 Pakistani SMEs | 1. Receivable Collection Period 2. Inventory Conversion Period 3. Payable Deferral Period 4. Cash Conversion Cycle | 1 Return on Asset 2 Operating Profit to Sales | 1. Negative/Insignificant 2. Negative/Insignificant 3. Negative/Insignificant 4. Positive/Insignificant 5. Negative/Significant 6. Negative/Significant 7. Negative/Insignificant |

| | | | | | | |
|---------------------------|---|---------|--------------------------------------|--|--|--|
| | | | | | | 8. Negative/Insignificant |
| Yegon et al (2014) | Working Capital Management and Corporate Financial Performance: Evidence from Panel Data Analysis of Selected Quoted Tea Companies in Kenya | Kenya | Fixed effect model. 6 firms | 1. Average Collection Period 2. Inventory Turnover 3. Average Payment Period 4. Cash Conversion Cycle 5. Net Trading Cycle | Net Operating Profitability | 1. Positive/Insignificant 2. Negative/Significant 3. Positive/Insignificant 4. Negative/Significant 5. Negative/Significant |
| Vahid et al (2012) | Working capital management and corporate performance: evidence from Iranian companies. | Iran | OLS 50 firms | 1. Average Collection Peri 2. Inventory Turnover 3. Average Payment Period 4. Cash Conversion Cycle 5. Net Trading Cycle | Net Operating Profitability | 1. Negative/Significant 2. Negative/Significant 3. Negative/Significant 4. Negative/Insignificant 5. Negative/Significant |
| Nha and Loan (2015) | Working Capital Management and Firm Value: Evidence from The Vietnamese Stock Market | Vietnam | Fixed Effect 450 firms | WCM | Tobin's Q | The study found that a non-linear relationship exists between firm value and WCM. The study concluded that there is an optimal level of WCM which could maximize the firm value. However, deviation from optimal level of WCM would reduce the firm value. |
| Afrifa and Padachi (2016) | Working capital level influence on SME profitability | UK | Random Effect 160 listed SMEs | Cash Conversion Cycle | Return on Asset Return on Capital Employed. | This study found that a non-linear, quadratic or concave relationship exists between WCM and all the measures of firms' performance adopted. These results further |

| | | | | | | |
|-------------------------------|--|----------|------------------------------------|---|-------------------|---|
| | | | | | Return on Equity. | confirm the existence of a point at which WCM level maximizes firm profitability and that as firms move away from this point their profitability reduces. In addition, the findings revealed that deviation on either side of the optimal working capital level reduces firm profitability. |
| Nurein, et al (2015) | Nonlinear Relationship between Investment in Working Capital and Performance: Innovative Evidence from Food and Beverages Industry | Malaysia | GLS 73 firms | <ol style="list-style-type: none"> 1. Cash Conversion Cycle 2. Square of Cash Conversion Cycle 3. Inventory turnover cycle 4. Receivables cycle 5. Account payable cycle | Tobin's Q | <ol style="list-style-type: none"> 1. Negative/Significant 2. Positive/Significant 3. Positive/Significant 4. Positive/Significant 5. Positive/Significant <p>They also found that a U-shaped relationship exist between WCM and firm performances</p> |
| Muhammad, Jan, & Ullah (2012) | Working Capital Management and Profitability: An Analysis of Firms of Textile Industry of Pakistan | Pakistan | Regression 25 Textile Firms | <ol style="list-style-type: none"> 1. Cash Management 2. Accounts Receivable 3. Inventory 4. Accounts Payable | Profitability | <ol style="list-style-type: none"> 1. Positive/Significant 2. Positive/Significant 3. Positive/Significant 4. Negative/Significant |

| | | | | | | |
|--------------------------------------|--|---------|---|--|----------------------|---|
| Makori and Jagongo (2013) | Working Capital Management and Firm Profitability: Empirical Evidence from Manufacturing and Construction Firms Listed on Nairobi Securities Exchange, Kenya | Kenya | OLS 10 Firms | 1. Accounts Receivable 2. Inventory 3. Accounts Payable 4. Cash Conversion Cycle | Return on Asset | 1. Negative/Insignificant 2. Positive/Significant 3. Positive/Significant 4. Negative/Significant |
| Arunkumar and Ramaman (2013) | Working capital management and profitability: A sensitivity Analysis | India | Weighted Least Squares (Generalized Least Squares). 1198 firms | 1. Debtors Days 2. Inventory Days 3. Creditors Days | Return on Asset | 1. Positive/Significant 2. Positive/Significant 3. Negative/Significant |
| Ademola (2014) | Working Capital Management and Profitability of Selected Quoted Food and Beverages Manufacturing Firms in Nigeria | Nigeria | SPSS (OLS) 12 firms | 1. Accounts collection period 2. Inventory conversion period 3. Accounts payment Period 4. Cash conversion cycle. 5. Aggressive investment policy. | Net operating profit | 1. Negative/Significant 2. Negative/Insignificant 3. Negative/Insignificant 4. Positive/Insignificant 5. Positive/Significant |
| Uwuigbe, Uwalomwa and Egbide (2012). | Cash Management and Corporate Profitability: A Study of Selected Listed Manufacturing Firms in Nigeria | Nigeria | SPSS 15 Listed manufacturing firms | 1. Cash conversion cycle 2. Current ratio 3. Debt ratio 4. Sales growth | Operating Income | 1. Negative/Significant 2. Positive/Insignificant 3. Negative/Insignificant 4. Positive/Significant |
| Uremadu, Egbide and Enyi (2012) | Working capital management, liquidity and corporate | Nigeria | OLS | 1. Inventory Conversion Period 2. Debtors Collection Period 3. Creditors Payment Period | Return on Asset | 1. Positive/Significant 2. Positive/Insignificant 3. Negative/Significant |

| | | | | | | |
|-------------------------|---|---------|-------------------------------------|--|-----------------|---|
| | profitability among quoted firms in Nigeria: Evidence from the productive sector | | 25 manufacturing firms | 4. Cash Conversion Period | | 4. Negative/Significant |
| Owolabi and Alu (2012) | Effective working capital management and profitability: A study of selected quoted manufacturing companies in Nigeria | Nigeria | SPSS 5 manufacturing firms | 1. Inventory Conversion Period 2. Cash Conversion Period 3. Debtors Collection Period 4. Creditors Payment Period | Return on Asset | 1. Negative/Insignificant 2. Positive/Insignificant 3. Negative/Insignificant 4. Positive/Insignificant |
| Takon and Atseye (2015) | Effect of working capital management on Firm profitability in selected Nigerian Quoted companies | Nigeria | Fixed Effect 46 Listed Firms | 1. Cash Conversion Cycle 2. Liquidity 3. Age of Firm 4. Accounts Receivable 5. Accounts Payable | Return on Asset | 1. Negative/Significant 2. Positive/Significant 3. Positive/Significant 4. Negative/Significant 5. Negative/Significant |